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FIRE ENGINEERING

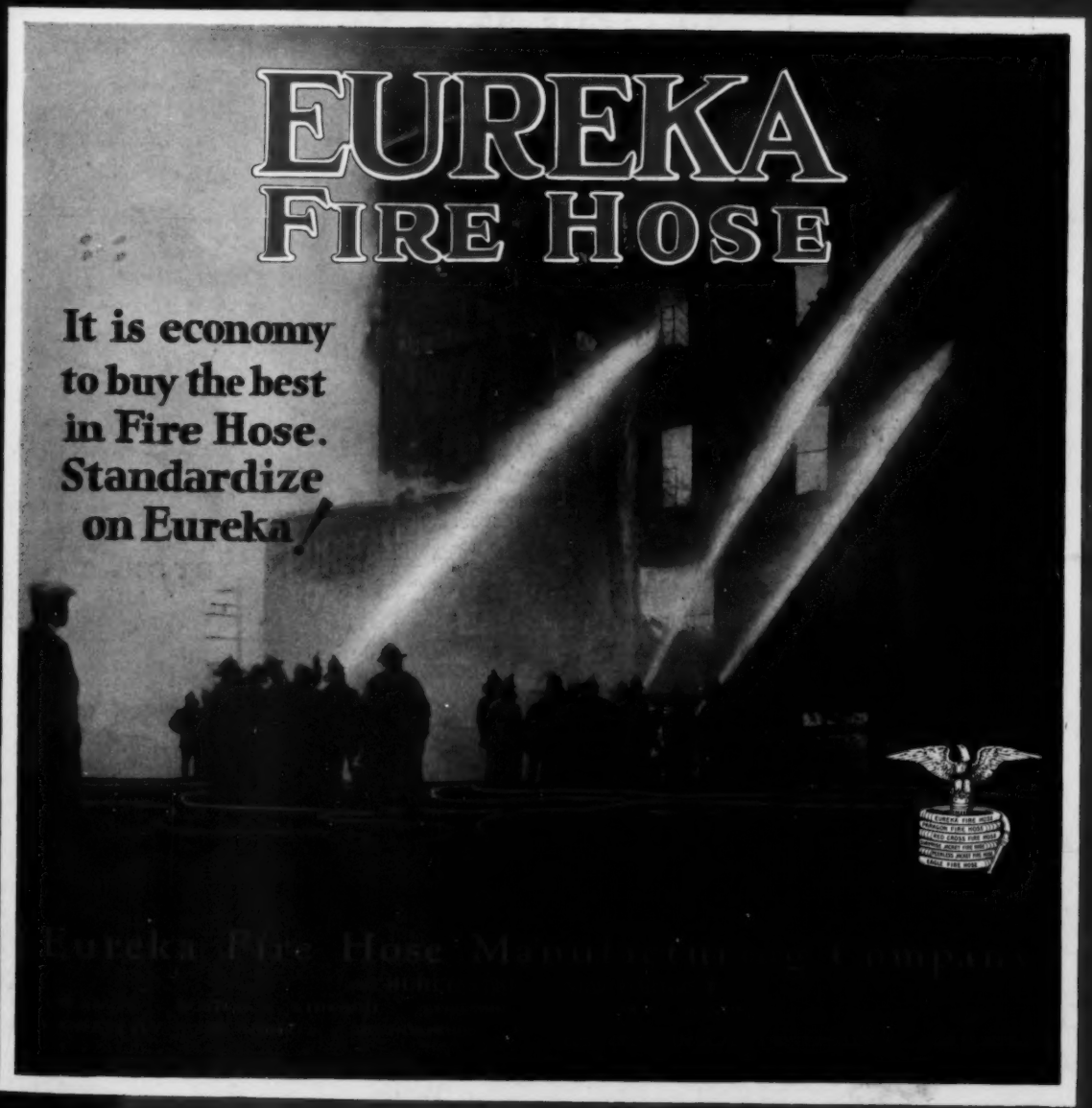
A consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

The Journal of the Fire Protection Profession

Established 1877
Member A.B.C.-A.B.P.

OCTOBER, 14, 1931

Issued
Every-other-Wednesday



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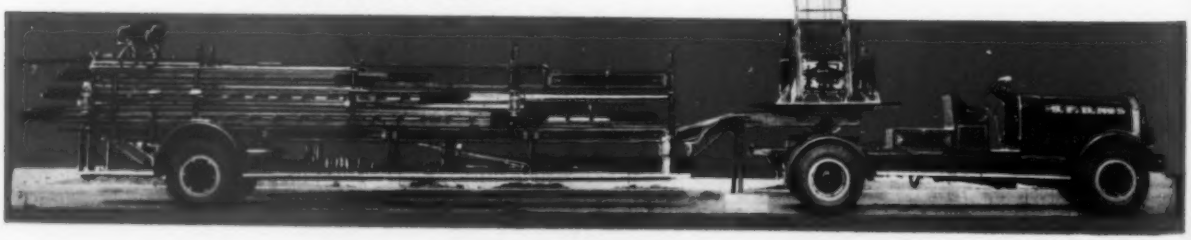

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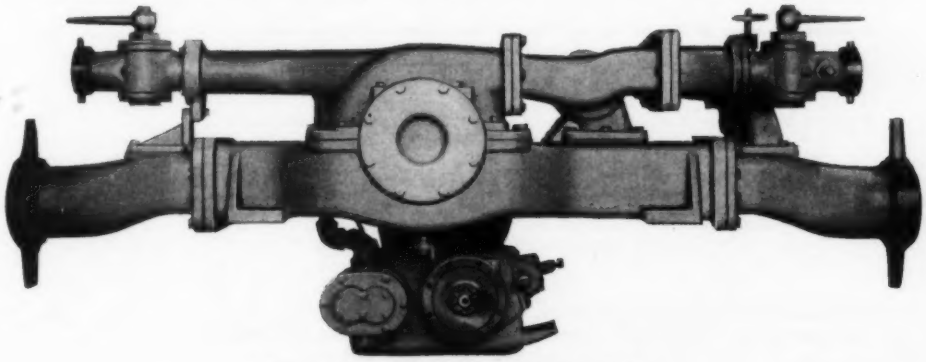

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A Consolidation of FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

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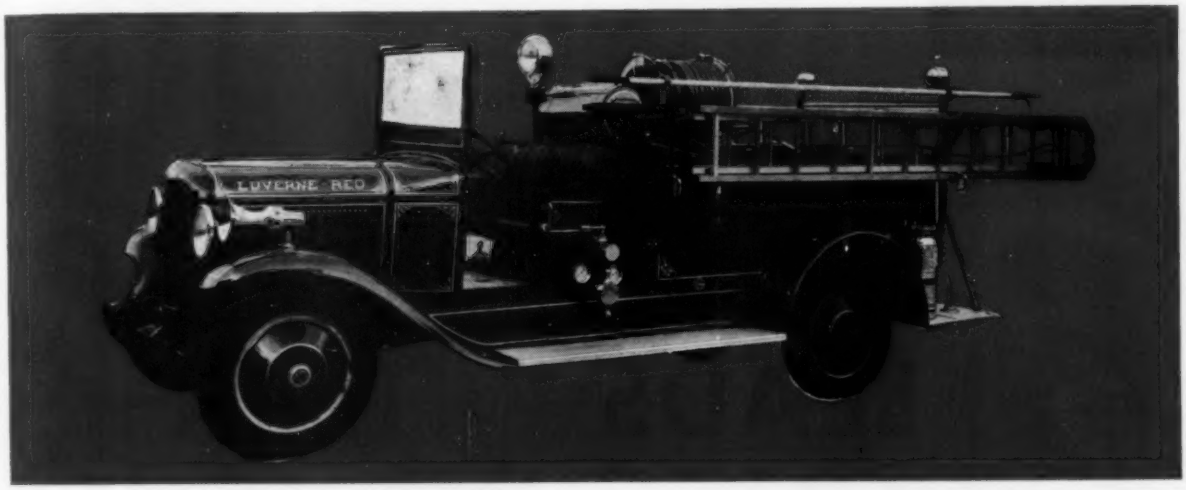

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Manufacturers of Fast, Dependable Motor Fire Apparatus

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AGAIN LAFRANCE LEADS WITH A 12 CYLINDER V-TYPE MOTOR *for fire apparatus*

LaFrance presents a more perfect weapon against fire . . . the LaFrance V-Type 12 Cylinder Engine. Two years have been spent in developing and perfecting the LaFrance V-Type 12. Every detail has been proved under the most severe operating conditions.

This is the day of multiple cylinder power. Now it is available for fire service . . . and in fire service it is more important than for any other use.

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In fire apparatus, practically all vibration originates in the power plant. This destructive force not only wears out the engine, but all other operating parts. Eliminate vibration, and you add many years to the life of apparatus.

Idle the new LaFrance motor. Then speed it up to 3000 r. p. m. You will find no "vibration period." 12 cylinders produce a steady, unbroken flow of power. The unusual angle of the cylinders, rigidity of the crankshaft, lightness and accurate balancing of reciprocating parts, all contribute to outstanding smoothness of power.

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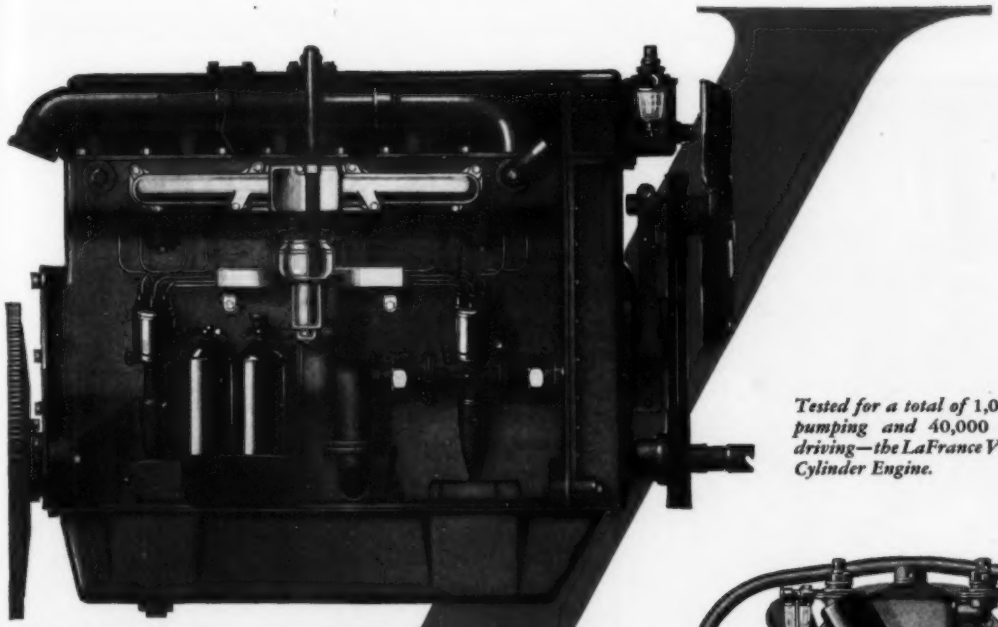
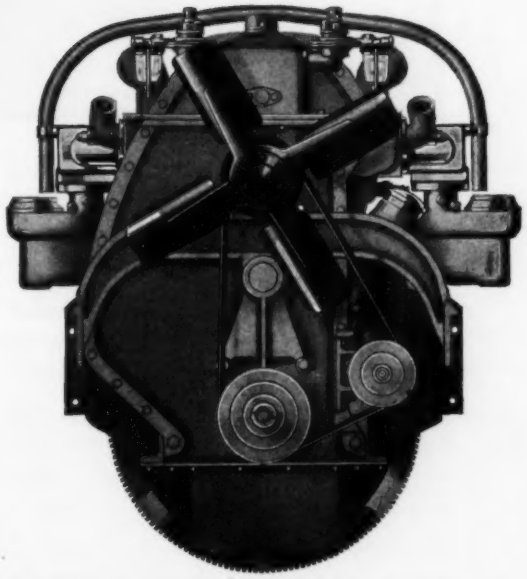
Great flexibility takes care of the demands of emergency service, contributes to the life of the engine, and lowers cost of maintenance. The use of aluminum pistons and machined "all-over" connecting rods, together with lightness of reciprocating parts give the LaFrance V-Type 12 an unequaled accelerating ability covering a wide range of speeds.



Tested for a total of 1,000 hours pumping and 40,000 miles of driving—the LaFrance V-Type 12 Cylinder Engine.



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The LaFrance weighs less per horse-power than engines of similar displacement. As a result, fuel cost is decreased and operating expenses are extremely low.

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The lubricating system is self-contained, and self-regulating. In this system, LaFrance engineers have contributed to the science of motor lubrication. For example, a special design and arrangement of piston rings prevents excess of lubrication and eliminates piston slap or loss of compression.

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The LaFrance V-Type 12 provides greater power capacity for pumping because of the increased horse-power available. There is a 40% power reserve when pumping at the rated capacity of the pump, and 10% less fuel consumption.

The LaFrance V-Type 12 Cylinder Engine is built exclusively for fire department service.

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Familiarity with fire department work has allowed us to design, in the LaFrance V-Type 12, an engine which is better suited for continuous service in heavy duty operation than any engine produced today. The latest developments in the automotive field have been combined to produce the maximum in efficiency, dependability, and long life.

Write for a folder completely describing and giving specifications of the LaFrance V-12. Address American LaFrance and Foamite Corporation, Dept. A83, Elmira, N.Y.

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AN ENGINEERING SERVICE

AGAINST FIRE

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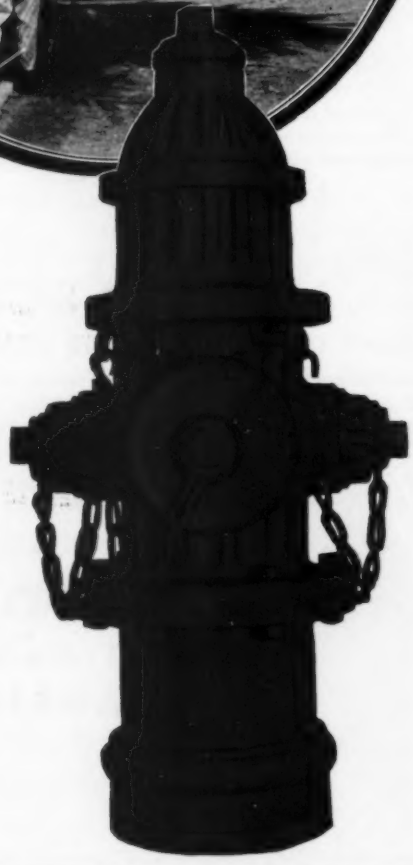
IN any climate, the MATHEWS MODERNIZED HYDRANT can be depended upon to operate at full efficiency. The shield operating nut and the location of the stuffing box prevent water or moisture from seeping down or up into the operating thread or revolving nut. Thus, no ice or rust can form in these vital parts to interfere with easy opening and closing in zero weather or torrid heat.

A broken MATHEWS can be replaced in a few minutes *without digging or breaking the pavement;* and inspection and repairs are easily made as the entire barrel, with all working parts, unscrews and withdraws through the protection case. The compression type main valve prevents leakage or flooding when the hydrant is broken. Write for the new booklet describing the exclusive features that have made the MATHEWS the leader—more than 350,000 in use throughout the world.



MATHEWS

MODERNIZED HYDRANT

CAST IRON PIPE — SAND SPUN (CENTRIFUGALLY CAST)
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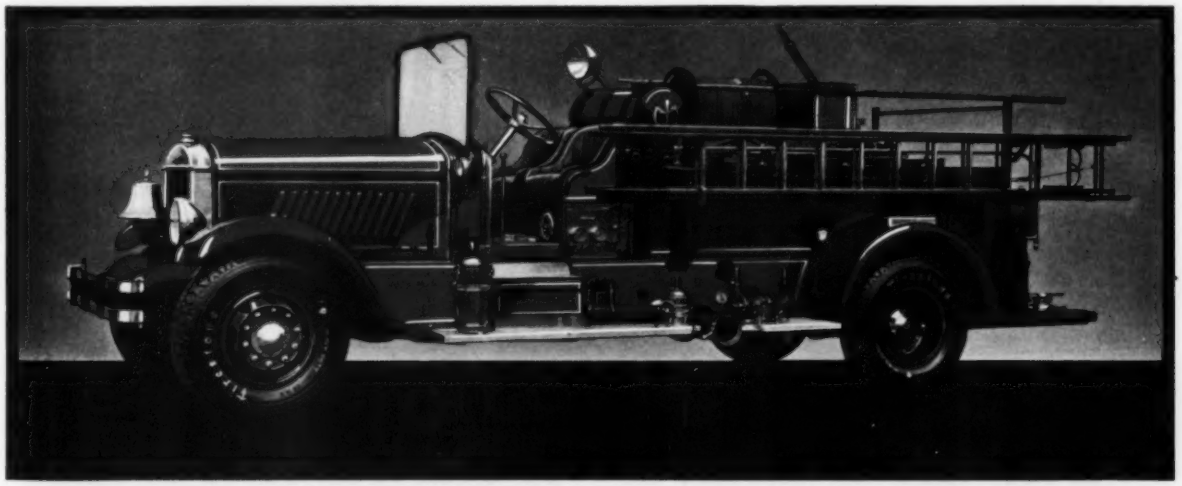
Only *Mack* Fire Apparatus has Mack Protection

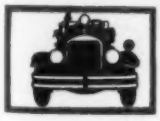
Three hundred and forty cities use Mack fire apparatus. Within overnight radius of these communities there is a direct Mack factory branch stocked with Mack parts to maintain Mack fire apparatus in constant, efficient service.

Mack fire-fighting units are protected by more than 100 direct Mack factory branches offering service facilities during their entire life because all Mack fire apparatus are completely Mack-designed and Mack-built. No Mack fire-fighting unit can ever become "orphaned."

Your community deserves fire-fighting equipment that is protected by the permanent nation-wide Mack organization. And measured by high standards of performance, appearance, quality and dependability, the products of *Mack progressive fire engineering* are unquestionably the outstanding buy in fire apparatus today.



Mack Type Nineteen 1000-Gallon Pumper. **The following cities have recently purchased Mack Pumpers of this Type: Mamaroneck, N.Y., Little Rock, Ark., Spring Valley, N.Y., Carmel By The Sea, Calif., Jackson, Miss., Youngstown, Ohio, Mountain Lakes, N. J., San Francisco, Calif., Saratoga, N.Y., Paris, Texas, Seattle, Wash., Santa Monica, Calif., Hartford, Conn., Lawton, Okla., Morris Township, N. J., Pittsfield, Mass., Suffern, N.Y., Brighton, N.Y., Poughkeepsie, N.Y., Armonk, N.Y., Salem, Oregon, Campbell, O., San Jose, Calif., Dolton, Ill.**



MACK TRUCKS, INC., *Fire Engine Division*, 25 Broadway, New York, N. Y.

More than 100 Direct Mack Factory Branches are equipped to service Mack Fire Apparatus in any emergency.

THERE'S A *MACK* FOR EVERY FIRE-FIGHTING NEED

Chief—

here's a HYDRANT that you will want to recommend

because:

EXTRA LARGE CAPACITY

insuring greater pressure at nozzle.

•

REVOLVING HEAD

permitting nozzles to be set without moving barrel.

•

BRASS NOZZLES

screwed in head — readily changed for different threads.

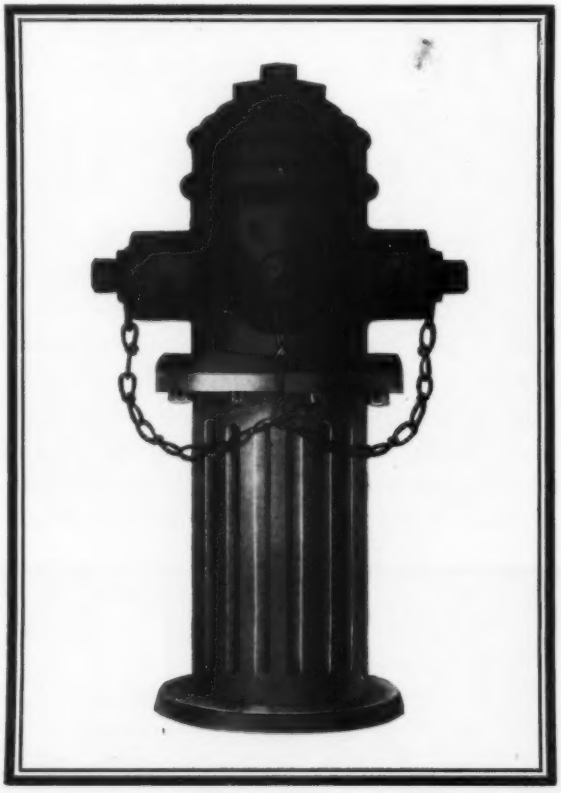
•

NOZZLE OPENINGS CAST IN HEAD

permitting change of arrangement and size of nozzles at small cost.

•

Always recommend—



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You want hydrants that work easily and quickly the minute you need them. These CRISPIN HYDRANTS were designed with a view to giving your department just that. They represent the last word in fine, good looking, fast working hydrants. Don't just recommend that old hydrants be replaced . . . SPECIFY CRISPIN, the hydrant that is designed for the fire department . . . they cost no more than others.

MULTIPLEX MANUFACTURING CO.

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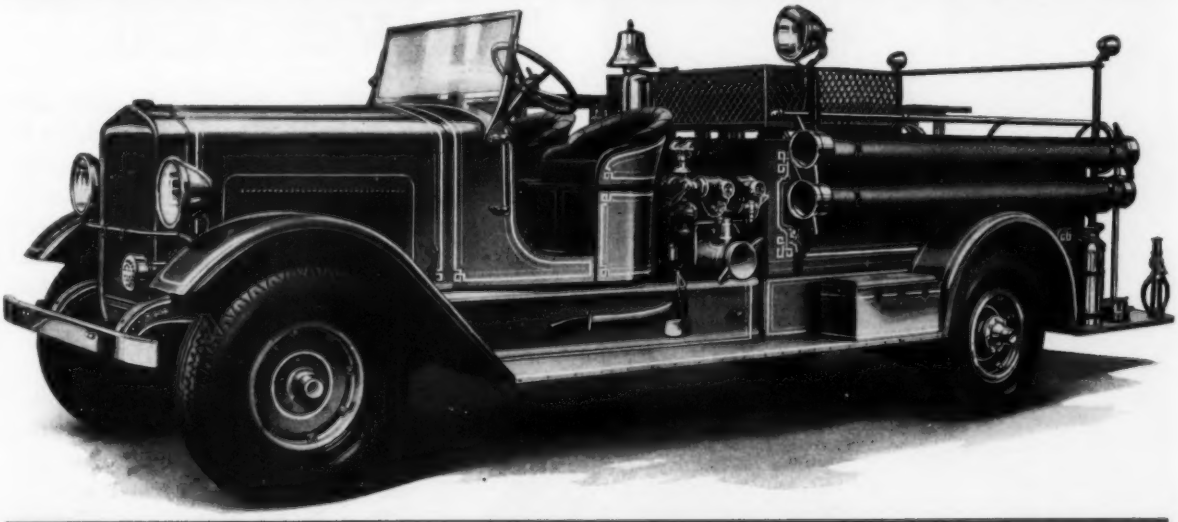
Selected by Eastern Fire Chiefs Who



Demand Greater Dollar for Dollar Value

TODAY, you may find some fire apparatus that is built to meet your lower budget—but it won't be Maxim apparatus. We have spent years constantly making changes that make Maxim apparatus finer, better. We won't change our policy now.

A LINE TO US

will bring you complete data on any particular type of apparatus you are interested in. You can write us without any further obligation than to receive our literature. Write now.

To every chief who is considering buying apparatus this year, or next; you can recommend the purchase of Maxim apparatus with the full assurance that the job you get will be even better than any Maxim we have ever built before. Maxim apparatus is built as good apparatus should be, not built to meet a price.

MAXIM MOTOR COMPANY

MIDDLEBORO, MASS.

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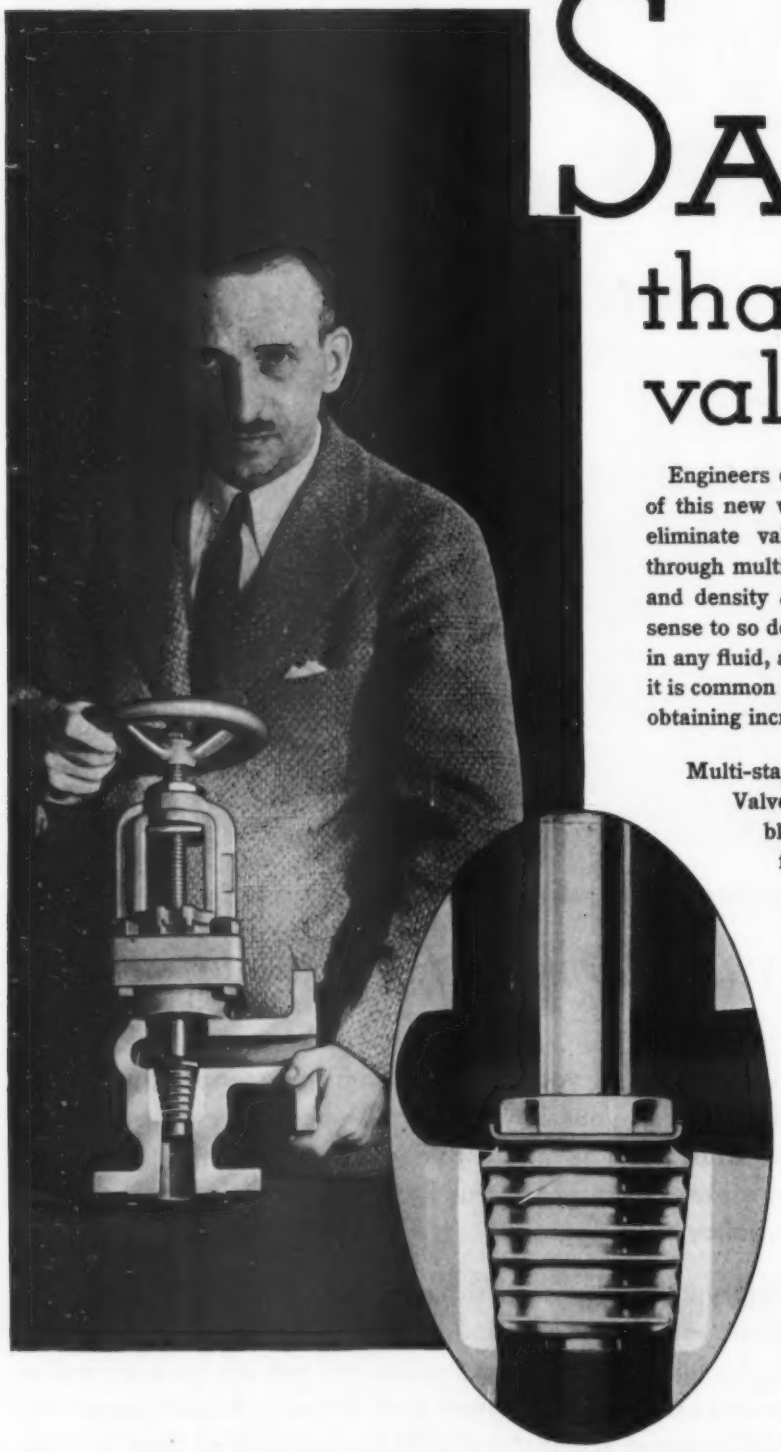

SAY --

that's a real valve

Engineers quickly grasp the common sense back of this new valve design. It is common sense to eliminate valve erosion by removing its cause through multi-stage reduction of pressure, velocity, and density *across the valve seat.* It is common sense to so design the seat that it forms a tight seal in any fluid, at any pressure and temperature. And it is common sense to employ *wear* as the means for obtaining increasing precision and tightness!

Multi-staged for multi-uses, The Ludlow Multi-Valve is at once a perfect throttle, stop, blast and drain valve, and a tight seal for all viscous liquids and solution. Here, in the Multi-Valve principle, will be found the answer to flow control problems at higher pressures and temperatures. Material alone can never be the answer. It must lie in the multi-stage plug and cone — a sound engineering principle that can be applied to your own valve problems.

Engineers who would like to study the matter further are cordially invited to correspond with our Engineering Department. Bulletin 101, which illustrates and describes the valve principle in detail, will be sent at once.

The LUDLOW VALVE MFG. CO.

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1866 · First with the Gate Valve · · TODAY · The new Multi-Valve

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BAPTIZED by FIRE!

—for 40 years, Manhattan Fire Hose has been a dependable weapon for protection of life and property.

—it is easy and speedy to handle.

—its record of unfailing service is amazing.

—it has truly been Baptized by Fire.

The Manhattan Rubber Mfg. Division
of RAYBESTOS-MANHATTAN, Inc.
Executive Offices and Factories
Passaic, New Jersey

"A Box a Block"

GIVES STATESVILLE, N. C.

96%

BOX ALARMS

CITY OF STATESVILLE
STATESVILLE, N. C.

C. N. MILLS
CITY CLERK AND TREAS., ETC.

September 21, 1931.

The Gamewell Company,
Newton, Massachusetts.

Gentlemen,-

It is a pleasure to hand you a statement in regard to our Gamewell Fire Alarm System, which as you know is a "Box in every Block" in our city. We have 100 boxes in our city which has a population of ten thousand four hundred ninety one (10,491). Will say we have in the past 12 months had 103 alarms, of these alarms ninety six (96) % came in over the system.

We are more than pleased with the Gamewell System, and would not think of going back to the old system of telephones. It might be interesting for you to know that our fire area is approximately thirty nine hundred acres.

Yours very truly,

A. Cooper

CHAIRMAN OF FIRE COM.

STATESVILLE, N. C., offers another fine example of what adequate fire alarm box distribution will do for a fire department. Three years ago when that city installed its first fire alarm system, the officials decided that if they were to receive the full benefit from their investment, an adequate number of fire alarm boxes would have to be installed.

Accordingly, it was decided to install a box on every block so that a person discovering a fire would know instantly that a box could be found on the nearest street corner. One hundred Gamewell boxes of the Peerless non-interfering and succession type were distributed throughout this city of 10,491 population. Now that the system has been installed long enough to judge its value, Chairman of the Fire Committee, Mr. A. Cooper, states that city has received 96% of its alarms through the fire alarm boxes during a twelve months' period, and although definite statistics are not available, there has been a noticeable decrease in fire losses.

Examine the fire alarm records of your own city. If the percentage of box alarms is low, it is an indication that you have not a sufficient number of fire alarm boxes. Additional boxes should be installed until you have "A Box A Block" distribution, then as your city grows, a definite number of new boxes should be installed each year to maintain an adequate box distribution. Without that, you cannot maintain a high percentage of box alarms—the safe alarms.

The fire alarm box offers you the quickest and most reliable means of transmitting an alarm of fire.

THE GAMEWELL COMPANY

NEWTON, MASSACHUSETTS

"A BOX A BLOCK"

FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Journal of the Fire Protection Profession

VOLUME LXXXIV OCTOBER 14, 1931 NUMBER 21

Protecting Property in Havana Against Damage by Fire

Although Department May Seem Small by Comparison, the City Enjoys a Very Low Fire Loss and an Excellent Record

By GERRY SWINEHART

FIRE control methods employed in Havana, equipment and personnel, strike an important contrast with those employed in the majority of American cities. In the Cuban capital, which many probably will be surprised to know is about the size of the city of Pittsburgh, residences and buildings are constructed to withstand two important enemies in the tropics—fire and hurricane. That Havana has built wisely is clearly evident to anyone who has had a chance to peruse the statistics available at the chief fire headquarters.

Havana, a thickly settled city of 693,000 inhabitants, is protected by a Fire Department that must seem pitifully small to the average American fire-fighter for many an American city one-third its size boasts more men and equipment. Havana's active fire-fighting personnel is 293 men. The equipment distributed over six stations in the Havana area amounts to five pumpers, six chemical cars, four ladder trucks and one steam pumper.

Yet in the face of these figures, Havana continues to maintain the lowest per capita fire risk in the world. Interesting it is to note that in twelve years but one fireman has been killed on active duty. During the same period only five lives have been lost in fires and there has been no single case of fire spreading beyond the immediate building in question.

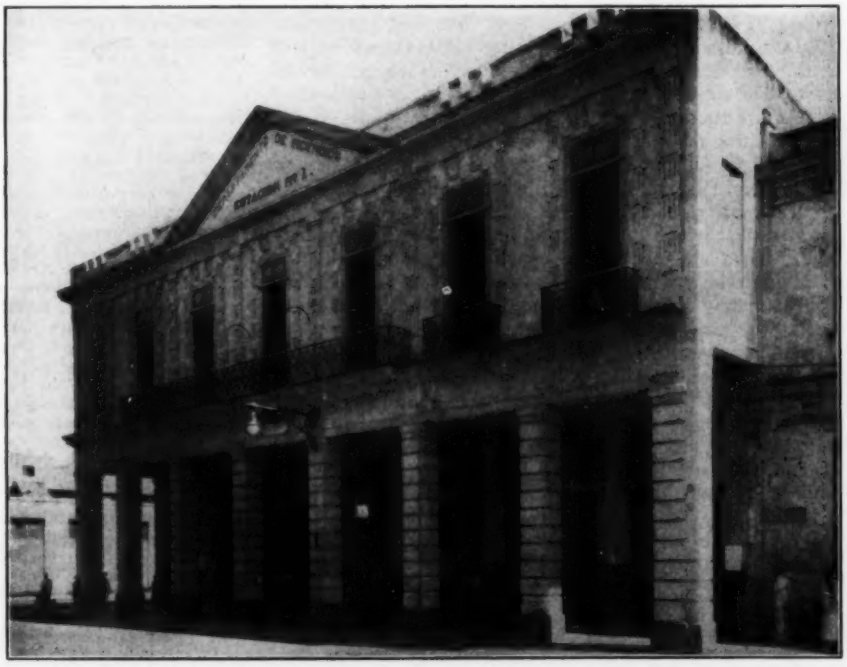
Report Figures

Still more eloquent are the figures released herewith for publication in FIRE ENGINEERING, by A. B. Lagueruela, City Engineer for the Havana Fire Prevention Bureau.

In view of the fact that the annual figures are based on current market values in this depression period, it is readily seen that the estimates are extremely conservative.

For fiscal year July 1st, 1930, the Fire Department shows the following record:

Total calls	277
Outbreaks	39
Fires	22
Alarms	89
Special services, i.e. rescues, other duties not immediately connected with fire	67
Brush fires	4
Automobile trucks burned	11
Passenger cars	19
Busses	10
Street Cars	3



Fire Station No. 1 in Down Town Havana

Assistance extended other municipalities...	8	
Explosions	1	
Salvage	1	
False alarms	1	
Value of buildings imperiled during fiscal year		$2,046,144.54
Merchandise imperiled		1,134,865.00
Total property imperiled		3,181,009.54
Actual losses during year on buildings		101,780.49
Actual merchandise loss		23,125.45
Capital saved from loss in buildings		1,944,364.05
Capital saved from loss in merchandise		1,111,739.55
Total		$3,056,103.60

But like the "mighty little man" it is, Havana's Fire Department has many times demonstrated its efficiency.

A little more than a year ago it proved this to the satisfaction of the Standard Oil Company of Cuba. Fire broke out at this highly inflammable plant and gained

Interior View of a Cuban Fire Station

considerable headway by the time the department had reached the scene. Arriving, there were 156 huge tanks of gasoline which were imperiled along the harbor front. Firemen found one tank burning containing 900,000 gallons, another containing 350,000 gallons and a third containing 200,000 gallons. Two additional tanks had exploded. Hardby at anchor in the harbor were more than 100 vessels, many of them a part of the great fishing fleet that puts out of Havana each year. Men of the Fire Department battled this blaze for seventy-eight hours, keeping the blaze under control and preventing a spread that seemed inevitable. Beyond the three tanks which they found blazing when they arrived, not a single gallon of gasoline from other tanks or a single boat was lost.

Fortunately for Havana and Cuba, where there are no fire fighting boats, no serious harbor fires have occurred in several years. On such occasions the department is compelled to use ferries which ply up and down and across the harbor to Casa Blanca. However, the purchase of marine fire fighting equipment has been sanctioned by the government and within the coming year the department expects to be able to meet any emergency that may arise with modern fireboats.

Firemen of Buzzards Bay, Mass., experienced an entire round of hard luck. Two barn fires broke out simultaneously. The local pumping engine broke down. The pumper from Onset which responded, started pumping water from the Cape Cod canal but the hose line became clogged with mud. There were hardly enough fire buckets to go around. Sparks from the two blazes set fire to the fire station and burned it level with the ground. Outside of that, nothing happened.

FEDERAL VOCATIONAL BOARD ISSUES SPECIAL BULLETIN

Publication Contains Suggestions for the Organization and Training of Firemen—Presents a Complete Analysis of Firemen's Job

APPROPRIATE to the observance of Fire Prevention Week set apart by presidential proclamation, is the publication of a bulletin "Fire Fighting" announced by the Federal Board for Vocational Education.

This bulletin which is the result of a study made by the Board at the request of the International Association of Fire Chiefs, contains an analysis of the city fireman's job, and suggestions for the organization and operation of training programs for firemen. The establishment of training programs recommended in the bulletin will, it is expected, result in a material reduction in the daily money loss of $1,500,000, and the daily loss of thirty lives, caused by fires in the United States.

According to the Federal Board's bulletin, great improvements have been effected in fire-fighting methods, which make the imperative the training of firemen not only in the actual operations of handling fire hose and ladders, and other apparatus and equipment necessary in fighting fire effectively and efficiently, but also in what may be termed the technical aspects of the fire-fighting job.

Many fires which formerly were extinguished by water may now be extinguished more quickly and with less damage to property by chemical apparatus. An example of this is the use of foam type extinguishers to combat fires from oils and greases. With the increasing use of such chemicals in fighting fires has come also a recognition of certain dangers and limitations in their use under certain circumstances. While it is not necessary for a fireman to have an academic knowledge of chemistry in order that he may be able to handle a chemical fire extinguisher, he should have a practical knowledge of certain important chemical reactions, to the end that he may know how chemical apparatus works and how it can be controlled.

Proper ventilation is vital in handling a fire. It is possible to make too many or too few openings in ventilating a fire-ridden building. Ventilating the building to release overheated air, smoke, and gases so that the fire may be quickly reached and extinguished with the least possible amount of water and resulting damage is a science, and requires a knowledge of ventilating principles on the part of the fireman.

Fire departments are turning their attention more and more to training firemen in the measures necessary to the protection of property on fire from water and other damage. This work also has emphasized the need for more technical information on the part of firemen and the ability to apply this information on the job.

In many cities of the United States educational or training programs for firemen are only in the initial stage. Some cities have built drill towers and are training their men in handling equipment. Only a few cities, on the other hand, have gone further and have established training programs covering certain technical phases of the fireman's job.

In addition to suggestions for establishing vocational education programs for firemen, the new bulletin of the Federal Board for Vocational Education contains a complete analysis of the city fireman's job, the details of which have been checked and approved by Fire Chiefs in Los Angeles, Boston, New York, Brookline, Mass., Pittsburgh, Baltimore, Washington, Atlanta and Albany, Ga., Nashville, St. Louis, Milwaukee, Portland, Ore., Berkeley and Oakland, Cal., and Omaha.

Commenting on the bulletin the headquarters manager of the International Association of Fire Chiefs, said: "It will prove the biggest accomplishment up to date in the training of American firemen."

The study to which the bulletin is a sequal was made by Frank Cushman, Chief of the Trade and Industrial Education Service of the Federal Board for Vocational Education, C. F. Klinefelter, and James R. Coxen, of the Board's staff.

This new bulletin may be obtained at a cost of thirty cents a copy from the Superintendent of Documents, Government Printing Office, Washington, D. C. A special rate is provided for quantity lots.

A bungalow type fire station is being erected in Houston, Tex. It is the eleventh fire station of bungalow design to be erected in the city. Two more houses for the Fire Department have been proposed. The latest fire station will cost $11,000.

Fig. 1.—The Lay-Out, with Lighted Plumber's Candle Set in Celluloid Vanity Case, Partly Filled with Liquid Floor Wax, in the Midst of a Litter of Newspapers. Liquid Floor Wax Had Been Poured Over the Papers

Breaking Up a National Arson Ring

How Patient and Intelligent Effort on the Part of the Authorities Caused the Gang to be Caught Red Handed

By LIEUTENANT M. M. CLEMENT,
Fire Department, Long Beach, Cal.

The breaking up of an arson ring is not an easy matter. These criminals are especially wily, and are careful not to leave any traces behind when they pursue their nefarious work. All the more credit is due, in the instance treated in the following article, to the men who, through patient and intelligent effort, caused the apprehension of the firebugs:

IF you had been in Long Beach on the days between May 14 and May 18, you would have noticed a certain tension at Fire Department headquarters. The twenty some odd men assigned to Station One went about their work and their drill in the usual manner, and in fact many of them never suspected that something unusual was in the air. But that is explained by the fact that the entrance to headquarters is on the east side of the building, and many of the comings and goings took place unbeknown to them.

Mysterious Doings at Headquarters

From the inside of the station nothing much appeared out of the ordinary. For instance, a call for Captain DuRee to report to Assistant Chief Jewell's office occurs with sufficient frequency as to disarm suspicion that something was in the air. Likewise a conference between Captain DuRee and Lieut. Dell Davis, Squad officer.

But it did appear peculiar that Fire Prevention Engineer Hugh Etzell went about his duties in civilian clothes. The oldest man on the department could not remember when this had ever happened.

Nor was it easy to explain why Detective Lieutenant O. M. Murphy attended several conferences with Chief Minter and Assistant Chief Jewell. Nor could the presence of a short, stocky civilian be accounted for.

When an officer leaves his station for a trip of inspection, his destination is invariably recorded by the man on watch but both Captain DuRee and Lieutenant Davis left the station for reported inspection trips without announcing their destination. And neither officer was gone more than ten minutes.

The coming of the week-end brought another peculiar incident to the notice of those most observing. Neither Chief Minter nor Assistant Chief Jewell took any time off over the week-end.

The Evening of Monday, May 18

With this mysterious background established, we come to the evening of Monday, May 18. The time is about 7:30. The evening's drills have just been completed, and the men are playing acey-deucy, pinochle and pool. Some are reading the evening papers, and others are "out front" enjoying the cool evening breezes.

A red light pops up on the switchboard in the fire alarm bureau, and the excited voice of Fire Prevention Engineer Etzell puts in a hurry call for Chief Minter. While the call is being transmitted, Assistant Chief George Jewell is on his way in to headquarters. Almost immediately he arrives and is told that the Chief has just received a hurry call to 211 Pine Avenue. Without waiting for his driver Chief Jewell starts for the location, a bare two blocks from the station. He is almost running. The men at Station One didn't know it, but things were popping. From the hurried comings and goings it seemed that all roads converged toward 211 Pine Avenue. Then came a lull, and the story broke.

A perfect "set job" had been knocked over, the arsonists captured red handed, and a clear link established with a national arson ring with headquarters in St.

Louis. Fire and Police officials were elated, and underwriters were jubilant at the capture, for they had been working on the case a long time.

Gang Watched for Several Months

As far back as several months ago special agents of the National Board of Fire Underwriters were watching the activities of a certain gang in St. Louis that was known to be dealing in arson. Though it was known to investigators, they could not produce proof. Suspected as being the king pin of the mob was one Joseph Ritter, erstwhile leading political figure in the Missouri city.

In order to learn the movements of the leader, and thus obtain evidence that would lead to the arrest and conviction of the gang, Ritter was shadowed night and day. When he took a trip to Long Beach, Underwriters agents were on the same train and checked his every movement.

In bold letters they noted in their reports that while there, Ritter had several conferences with one Morris Shapiro, proprietor of the Marine Millinery at 211 Pine Avenue. Then Ritter went back home, still followed by patient agents.

Fig. 2.—The Door and Show Window of the Store to Be Burned, with All Openings to Outside Closed by Signs, So That No One Could Look In

"Trade-Mark" of the Gang

There is an old saying that an artist always signs his work. Criminologists state with emphasis that this applies also to experts in crime. Jobs are not signed in handwriting, of course, but when a certain method or procedure has been found after repeated trials to "cut the buck" they are adopted as standard. Therefore a certain kind of a job can be traced by detectives to certain individuals or gangs. They become trademarks, or in other words, signatures.

Investigation by undercover men for the Underwriters of suspicious fires in retail establishments in widely separated cities had convinced them that they were the work of one man or one gang. As their studies progressed, they became convinced that the St. Louis gang was at the bottom of every job.

With but one variation, the procedure was the same. The store held a gigantic sale. All the merchandise was cut to half price. And the blaring signs announcing the sale were so arranged as to prevent anyone standing in front of the store from seeing inside. The front door glass was completely covered. Window signs were cleverly arranged so that it was impossible to see in without stooping and even then the panel closing off the inside of the show window permitted only a slanting view of the ceiling. (See Fig. 2.)

Sometimes the sale lasted two days, sometimes three. Then came the touch-off. Usually the fire gutted the store completely; always the evidence had been destroyed. And every fire fighter knows that an arson case without the evidence becomes just another fire. Often it is laughed out of court.

"Torch" Arrives in Long Beach

Back in St. Louis, officers and underwriters bided their time. Various bits of incriminating information were unearthed. Then came the word, through underworld channels, that a member of the gang was about to leave for Long Beach. Just before Police Chief Joseph Gerk of the middle western city flashed word to the Long Beach Police Department, advices were received by Chief Minter from the underwriters. A special agent of the insurance organization dashed west, and at a conference of fire and police officials, exposed the methods of the gang.

Registered with his wife at the Rosslyn Hotel in Los Angeles, was the "torch," as the touch-off man is known. On his trail was a special agent. Blitherly the gangster went to Long Beach, and called on Morris Shapiro, the man who had held conferences with Joseph Ritter, suspected arson gang leader.

Then it was that Fire Prevention Engineer Etzell doffed his uniform and turned detective. Two police detectives were detailed to watch the millinery store.

The "Sale" Is Announced and Held

On Thursday night, May 15, signs went up announcing a sale. The front door was completely covered, and the windows so covered that no one standing outside could look in.

Friday and Saturday brought good crowds to the "sale." Things were moving along on schedule, and it was at this time that the tension was most noticeable.

It was known that the gang employed two methods for the actual touch-off. Either it would be a time fuse, arranged to ignite paper and other litter, or it would be a gas explosion. Then it was that Captain DuRee and Lieut. Davis made hurried inspections. The general layout of the building was studied, and the gas meter located. If it proved a "dark fire," the gas meter was to be shut off before ventilating or opening up. If the

(*Continued on page* 788)

A Striking View of Fort Worth's Handsome New Fire Stations
The smaller building on the left is the Central Fire Alarm Station and the imposing structure on the right is Fire Headquarters.

The Last Word in Fire House Construction Embodied in

Two New Stations for Fort Worth

Texas City Builds a Headquarters and a Fire Alarm Signal Station to be Proud Of—Description of the Two Buildings

IN the construction of the two Fort Worth Fire Stations described in this article, the architects, Wyatt C. Hedrick, Inc., have not strictly adhered to any set school, but rather have chosen the best and most suitable part for the purposes intended. The buildings consist of a Fire Department headquarters and a Fire Alarm Signal Station, both located at Texas and Cherry Streets. The two structures are of reinforced concrete construction, the outline of the walls in face brick with cast stone trimmings. The main building has a roof of variegated clay tile, with red as the predominating color. Both buildings were carried out according to the same scheme.

Chief S. Ferguson
Fort Worth, Tex.

Lay-Out of the Main Building

Under the main building is a basement in which are installed the boilers serving both structures. On the first floor are the apparatus room, the captain's office and telephone room, a living room and main stair hall to the second floor, and two storage rooms. A paint room and repair shop occupy the one-story part of the building.

The main entrance, giving access also to the second floor, is on Cherry Street. An additional entrance is provided on the opposite side of the building.

Commodious and Comfortable Living Room

The living room, commodious and comfortable, has tile floors and base and the stair hall, in addition, has an ornamental tile wainscoat and tile stairs. In the captain's room and telephone room the floors are of terrazo. Other floors on the first floor generally are of concrete. The walls and columns in the apparatus

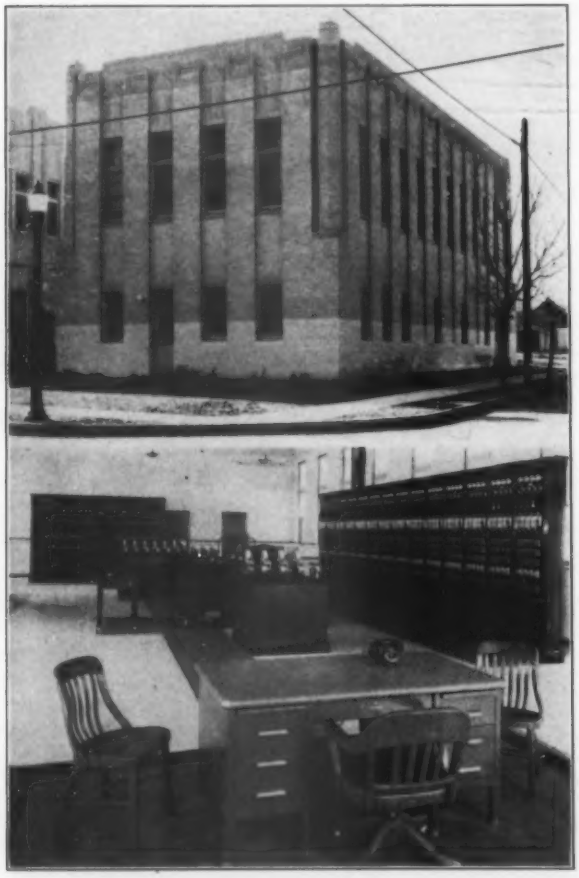
A Handsome Stairway

Left—Another View of the Fort Worth Stations, Showing the Two Sets of Apparatus Doors. Right—Part of the Apparatus Floor of the Headquarters Building.

room are faced with tile to the ceiling, while the remaining walls, except in the paint room, are plastered.

The Second Floor of the Main Building

On the second floor of the main building are the offices of the Chief, the Fire Marshal and the Assistant Chief. A bedroom and bath adjoin the Chief's office, while two other bedrooms, with connecting bath,



Upper—A Close-Up View of the Fire Alarm Central Station. Lower—The Commodious Fire Alarm Layout.

are provided. On that floor also is a gymnasium, 36 by 75 feet, with an apparatus room adjoining; a dormitory, 55½ by 68½ feet; kitchen, bathroom and showers, storage room and drying room. Three metal slide poles enable the firemen to reach the apparatus room with the necessary celerity.

Floors and Woodwork

The floor of the gymnasium is of maple, while the floor in most of the remainder of the second floor is of terrazzo. Fifty lockers for the clothing of the firemen line the walls of the dormitory. The bathroom has a marble wainscoat and partitions, while the baths themselves and the kitchen have a tile wainscoating four feet in height. All woodwork on the second floor is of birch, finished in walnut, except the slide poles and the doors to the stair halls, which are of hollow metal.

Exit Doors of Overhead Type

To the rear of the apparatus room is a hose tower, the topmost point of which is 64 feet above the grade level. The exit doors to the apparatus room, through which the fire-fighting equipment charges on its way to answer alarms, are of the overhead type, operated from the wheel of the trucks. The arrangement cuts to a minimum the time required for the machines to be on their way to a blaze.

The building is adequately heated by a combination of direct and indirect systems, the heated air being circulated through the large apparatus room by means of huge fans.

The Lay-Out of the Signal Station

The first floor of the Signal Station building offers space for a garage, a battery room, workshop, "cut-off" room and showers. A part of the lower story has terrazzo floors, and the battery room has a floor of acid-proof mastic. The second floor has a radio room and fire alarm switchboard room, occupying three-fourths the space of the building. These two rooms have been given an acoustical quieting treatment. They also have terrazzo floors, and the switchboard room has a five-foot glazed tile wainscoating.

The signal station is located immediately to the west of the main building.

List of Apparatus Installed in Signal Station

The list of Gamewell apparatus installed in the Fort

(*Continued on page* 791)

The Volunteer Fire Department

By N. N. WOLPERT,
Assistant Editor, FIRE ENGINEERING

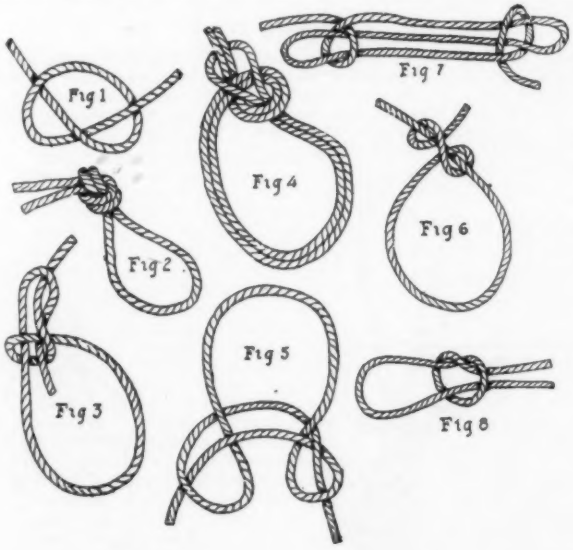
A Series of Articles on Volunteer Fire Department Administration and Operation.

The Use of Knots and the Handling of Fire Hose

This article, the eleventh of a series, describes some of the knots that are used in Fire Department work. While knots may seem alien to the field of fire fighting, it is necessary that the men be thoroughly drilled in this work so that they will be able to properly fasten a line to a chimney or for hoisting ladders. Reproducing the knots will make an excellent indoor drill.

HAVE you ever watched a youngster go through the tortures of practicing his music lesson? He chafes at the uninteresting finger exercises and the monotonous music produced by going up and down the scales. What he wants is something more near his goal. He wants to play "I'm Keepin' Company," or some other composition just off the press.

So, too, with volunteers. They want the thrill of racing down Main Street with the apparatus. They want to fight fires, but they forget, like the child, that finger exercises are the important introduction to the subject.



Volunteer firemen must participate in drills. Offhand one would say that there was no connection with drills and the alien subject of knots, but when one's life is often entrusted upon a knot, it is serious to neglect knot-tying. A fireman should be able to make the knots with an appreciable amount of speed and he should be able to select the proper knot for his particular job.

The illustrations in the article have been drawn to show how a few of the many knots are made.

The most commonly used knot is the overhead knot—Figure 1. It is the first step in forming both the reef knot shown in Figure 17 and the granny knot illustrated in Figure 18.

Fig. 2. Loop Knot. This knot may be used for a variety of purposes, it is thoroughly safe, but it jams under tension and is very hard to untie when once tightened.

Fig. 3. Bowline (or bowline knot). This is one of the most useful knots of all. It is a safe knot, never slipping, and at the same time it does not tighten when put under tension. One of the most common uses of this knot is in hoisting ladders to the top of buildings. For this purpose a double half hitch is placed around each beam of the ladder, slightly above the center, one hitch being placed above and one below the rung at each beam. Then the two ends of the rope are brought up to a bowline, and from there one rope reaches to the roof. The short free end of the rope is made into a binding knot, which is nothing more than a half hitch around the tension end of the rope.

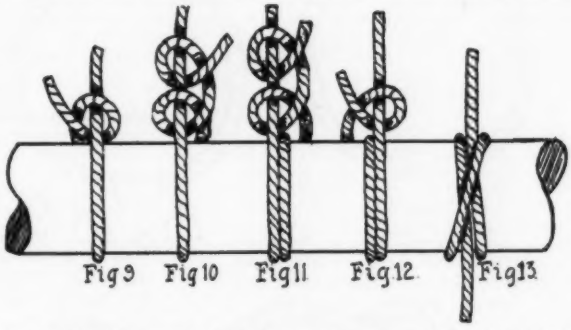


Fig. 4. Bowline on a bight. This differs appreciably from the plain bowline in the form of construction. Its characteristics are, however, about the same. It is safe and does not jam under tension.

Fig. 5. Harness hitch. Used chiefly in marine work for fastening men to a towline.

Fig. 6. Slide Knot. Used as a slip-knot, but is much easier to undo than the type of slip-knot usually made.

Fig. 7. Sheepshank. Where it is necessary to shorten a rope that has its ends already bound, the sheepshank is most effective in that it can be made to take up any amount of slack. Surprising, though it may seem, the knot will not undo when submitted to heavy tension. The greater the tension, the tighter the loop around the slack becomes. It is easy to undo once the tension is removed from the line.

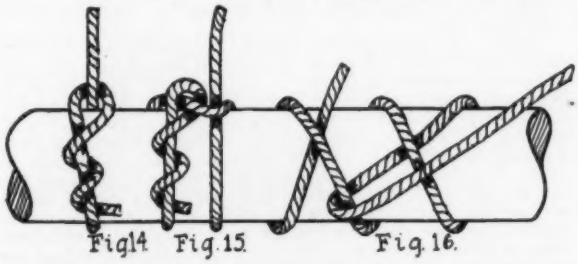


Fig. 8. Slip knot. This is the slip knot in its most commonly used form. It is easily made and not particularly hard to undo.

Fig. 9. Half hitch. Of all knots the half hitch finds the widest use. Not only is it used alone but in combination with a variety of other knots. It is very easy to make. As shown in the sketch, the rope is fastened to a timber by a single half hitch. In tying the half hitch, the free end of the rope is brought around the tension end and then brought under itself.

Fig. 10. Half hitches, two. This knot is accomplished by placing the second half hitch on top of the first. This makes

a much more secure fastening. Two half hitches in a hawser are sufficient to hold a ship to its moorings.

Fig. 11. Rolling hitch. (Two turns and two half hitches). This is a still more desirable fastening than the two half hitches, for it prevents the rope from slipping back and forward around the object to which it is fastened.

Fig. 12. Round turn and half hitch. Not quite as secure as rolling hitch.

Fig. 13. Heaving-line bend. Used for fastening rope to post, spile, chimney, and other objects which will not rotate when strain is brought off at tangent to circumference of the object to which it is fastened. Safe for fastening hose lines to chimneys where roof is slippery, or where hose is hanging over the ledge.

Fig. 14. Timber hitch. This type of knot is necessary where a rope is to be secured to an object which rotates, such as a spar or log floating in water. It is also safe and satisfactory for all purposes for which the heaving-line bend is intended.

Fig. 17

Fig 18.

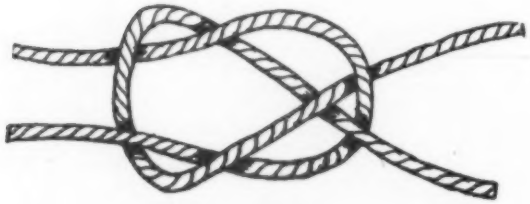


Fig. 20.

Fig. 15. Timber hitch with a half hitch. A knot that exceeds the timber hitch in security.

Fig. 16. Rolling hitch. Another type of hitch for a revolving object.

Fig. 17. Square knot; reef knot. As shown here the knot is applied to a single piece of rope. This, however, is not its most common application. Referring to the sketch, if the rope should be severed at the bottom of the large loop, then the application of the knot for joining two pieces of rope is the result. This knot is a very secure one, and tightens under strain. Care must be taken, however, to make sure that the two terminals on one side of the knot are the tension lines. For example, the two ends shown at the top of the sketch must be the ends to which the load is applied, or else the two bottom ends made by cutting the loop as described above. The knot is insecure if a lead on one side and a lead on the other side of the knot are used as tension lines.

Fig. 18. Granny knot. This knot is frequently mistaken for the reef knot. It is dangerous, for it slips. Besides, it may jam under tension. Note that the second part of the knot is made precisely the same as the first step. In the reef knot both the ends on the right go through the loop in the same direction. In the granny knot, the ends go through the loop in different directions.

Fig. 19. Weaver's hitch. An effective means of joining two ropes, and is particularly effective on ropes of different sizes.

Fig. 20. Carrick bend, single. For joining heavy ropes.

Fig. 21. Carrick bend, double. For joining heavy ropes.

Fig. 22. Marlinspike hitch. This is a knot commonly used for tightening up a rope already secured and where the slack is not excessive.

Fig. 23. Chair knot. This is a very useful knot for lowering an unconscious person from a building. It is formed in the middle of a rope. Take hold of a rope with

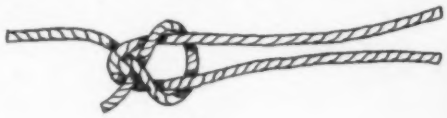


Fig. 19.

Fig. 22.

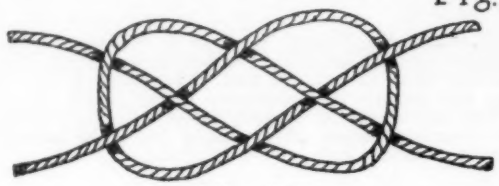


Fig. 21.

both hands, stretch out your arms at right angles with your body, allow the rope to pass loosely through your hands; when extended to the full, hold fast the rope in each hand, knot with the bight, pull the knot tight over each bight pass a half-hitch of the rope, and tighten it down to the knot. A is the arm loop, B, the leg loop and C, the hauling part. D is the guy or support.

Handling Hose

In actual fire service, the men should not be permitted to pull off the hose in folds; it should be allowed to run off the apparatus. If the hose is pulled off in folds, there will be a surplus of hose on the street, and as every additional foot of hose used increases the friction loss, there is an unwarranted loss of nozzle pressure.

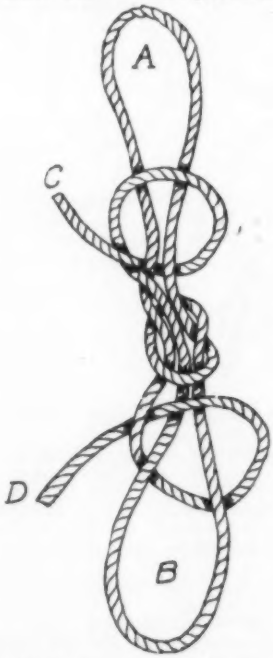


Fig. 23.

It is necessary, however, to pull off the hose in folds after the apparatus has reached the building on fire. Extra hose is needed to reach the seat of the fire.

As explained in the previous chapter, hose should always be laid along the curb and on the same side that the hydrant or pumper is located, in order to prevent unnecessary cross-

(*Continued on page* 796)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE hose, even though it may appear to be rugged and constructed for rough duty, must be carefully handled, stored and used, if the department is to enjoy the normal life of the hose. Much of the replacement of fire hose is caused by acid burns, sets in the hose that is the result of improper storage, and failure to exercise the proper care in handling the hose.

In the box on this page is the problem in full that is treated in this issue. In the box on the following page is the question that will be considered in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th St., New York, N. Y.

HERE IS THE PROBLEM

What procedure do you follow to preserve and increase the life of your fire hose?

Have you ever been troubled with acid damage to hose?

What have you found to be the factors for the decreased service of fire hose?

Discussion of the Question

Every chief is agreed that it pays to give fire hose the proper care in accordance with well defined rules established by fire hose manufacturers. The replies received follow:

A. McC. Marsh, Chief, Columbia, S. C.: The different brands of fire hose that we use are bought under a three-year guarantee and the hose always lasts two or three times longer than the guarantee. We have on hand a sufficient quantity of fire hose for an extra change for all fire trucks, and whenever the hose is used at fires and returned to station quarters, it is taken to the yard back of the engine house, which has a concrete floor, and the hose is brushed off with a good soft broom made of corn straw. The hose is turned over two or three times a day and when all the mud and sand are thoroughly dry on the hose, the hose is nicely cleaned and rolled up, and placed in a clean place in the engine house. We do not believe in hose towers or hose racks, for when we did use them, we found that the hose lasted only a few months longer than the guarantee. What little water is left in the hose after the hose has been flattened out, keeps the rubber preserved, and makes the hose last much longer. We have been practicing this method now for seven years. We also use heavy canvas covers made to fit the bodies of our trucks and the hose is kept covered during rainy weather when responding to fire alarms, thus preventing dampness which would cause the hose to mildew.

We have had quite a lot of trouble in our Department from hose being damaged with acid. We had a chemical tank mounted on top of one of our truck bodies and used to sweep all the dirt and dust off of it. The hose is then rolled up and stacked on the rack. The hose is never wetted down after a fire. If this practice is followed there is a likelihood of the hose being put away damp and thus it will mildew.

stop this trouble, we removed the tank from the body to the fact that the hose is often flushed and re-rolled. years ago and since that time we have not lost any hose by being eaten with acid on the apparatus.

Another experience we have had, was in re-filling our hand extinguishers when we would dump out the old charge left after using the extinguishers at fires. They would be discharged in storm drain in our back yard. This old charge was from soda and acid fire extinguishers and when cleaning our fire hose in yard over storm drain we would get some of this dried matter on the hose. It would soon eat the hose up. So we kept careful watch as regards the handling and cleaning of our fire hose. We soon discovered our trouble. The old contents from soda and acid extinguishers were no longer allowed to be dumped into the storm drain. We found out from this experience that it will not do for a mixture of soda and acid to get on fire hose.

In reducing the service we get from fire hose, I do not know of a worst thing than the continuous washing of hose because it stiffens the hose and when loading hose on trucks and bending same it will break the inner lining of hose. We have had this happen many times from washing the hose too often and hence had to stop this practice. In drying hose, we should have a certain amount of sun which softens the jackets and makes them very soft and pliable. Where hose is washed regularly it will require too much sun to soften it up, and this, too, injures the hose.

D. M. Hudson, Chief, Chelsea, Mass.: The only procedure we follow to preserve and increase the life of our hose is the usual care all departments take of hose; dirty hose is washed thoroughly and dried before being placed in coils in reserve for future use. I do not know of any internal acid damage to our hose.

The average number of service years we get from our hose is six years. This service is rather limited when compared with the ten and twelve years service of thirty years ago. Of course, our hose today is subjected to a more damaging service than it was in the old days.

In extinguishing dump fires, of which we have many, much damage is often caused by stretching lines over and across piles of scrap iron, broken glass and sharp pointed baling wire which characterizes our dumps.

Hose jackets are often seriously cut by these damaging waste materials. It results in much bursted hose when subjected to high pressures.

There are many substances in our industrial plants that can be held responsible for damaged hose. So many factors affect the efficient continued service of our hose today that to enumerate them all, if it were possible, would require too much space in your valued paper.

We, feel we are fortunate in getting six years service from our hose under present conditions.

John C. Powers, Chief, Boonville, Ind.: After hose is used at a fire I see that it is thoroughly dry and a broom is used to sweep all the dirt and dust off of it. The hose is then rolled up and stacked on the rack. The hose is never wetted down after a fire. If this practice is followed there is a likelihood of the hose being put away damp and thus it will mildew.

I have had very little acid damage to our hose, due to the fact that the hose is often flushed and re-rolled.

Age and non-use decrease the service of fire hose. By this I mean that in many instances the hose is loaded on the truck, and especially the lower half of the load lays

pressed in tight folds for too long a period, and unless the trucks are unloaded often and different sections of hose used for re-loading, the chances are that some of the sections that have been packed so closely for so long a time, will not stand the pressure at a fire.

H. R. McMillan, Chief, Jacksonville, Fla.: All hose in this department is tested twice each year for defects and it must hold at 250 pounds pressure, at least. Hose after use, is properly cleaned, laid out in hose racks, dried, and then stacked on rack shelving for further use. Serviceable hose is never rolled up and stored. Should hose not be used on apparatus (whether full load or less), in sixty to ninety days, a complete change is made with the reserve hose. Water is run through hose from apparatus before placing it in hose rack to drain and dry. Hose racks are inside buildings, fifty-five feet long and allow a full stretch of hose length, with incline for good drainage; shelving is of the same length and inclined.

We have been troubled with acid damage to hose while at fertilizer plants fires, and from leakage of chemical engine connections on apparatus, especially at reel connections on discharge line. (We are changing over to booster tanks for this reason.)

The factors for the decreased service of hose are as follows:

Proper attention not being given after use of hose; heavy machines running over hose at fires; company officers not paying attention where their hose line is laid or pulled through, such as hot ashes, lime and other destructive elements that could be avoided by a little forethought and attention.

Frank Charlesworth, Chief, Providence, R. I.: We have found that the place and manner in which fire hose is kept is one of the important factors in prolonging its life. The rooms in which hose is kept must be of moderate temperature and be properly ventilated. Steam pipes should not be too close to the hose. Water should occasionally be run through the hose. When hose is not in use it should be changed every two weeks and short bends eliminated.

Infrequently hose comes in contact with acids at jewelry shop fires. Previous to three years ago we were troubled somewhat with acid from the chemical tanks but, an improved drip pan composed of number 18 gauge iron lined with 3/16 inch lead has eliminated this trouble. Improper care of fire hose after a fire, the use of chemicals in washing same and the usual precaution not being carried out, are the cause of decreased service of fire hose.

Henry A. Fox, Chief, Boston, Mass.: The regulations of our Department with regards to preserving and increasing the life of our fire hose is as follows:

1. If wet or muddy, do not allow the hose to remain on the apparatus; remove all mud by brushing and expose hose to air to dry in towers or on racks; preferably at full length. Mud often contains metal or other substances, which are chemically injurious to hose if allowed to remain on it.

2. Continued dampness is injurious to cotton fabric hose. If allowed to remain in that state it will cause mildew and will rot.

3. Do not permit hose to remain on apparatus longer than ten days, if not used. It should be removed, hung up in towers or stretched on racks. Avoid short bends in hose stored away.

4. When necessary to store hose in folds, the folds should be changed occasionally.

5. Unless hose is likely to encounter a freezing temperature, it is not necessary to thoroughly drain the water out as the rubber lining is not injured by dampness within. On the contrary it is benefited by remaining in a moist condition. All rubber lined hose should have water passed through it at frequent intervals to moisten the rubber.

6. When hose is frozen it is liable to crack or break, if the fabric is bent or rolled up in that condition.

7. Avoid exposure of hose to very hot, dry air. Do not store it near an engine heater or house boilers, or expose it to the sun's rays. It must be kept in a cool, dry place.

8. On returning from fires, care must be taken in washing off the under part of the wagon body. Hand hose must not be used as the lower layer of hose on the wagon is liable to get wet. This will cause mildew and will damage the hose. Care should be taken so that no damp hose is carried on the hose wagon.

9. When charging or discharging chemical engines or extinguishers, see that the solutions used do not come in contact with the hose.

10. Acids and other chemicals, oils, iron rust and fumes arising from some processes are injurious to hose and contact with them is to be avoided.

11. When fire hose is being used, see that the section nearest to engine or hydrant is not being chafed at point of contact with the ground by vibration.

We occasionally run into trouble with our fire hose from acids in garages, chemical plants, drug stores, dumps, etc.

The factors for the decreased service of fire hose are usually non-compliances with the rules for the care of same as laid down by our department.

F. J. Myers, Chief, Toledo, Ohio: To preserve and increase the life of our fire hose, the following procedure is carried out: Hose on apparatus should always be dry. To insure this, it must be changed after every fire, or every two weeks if not used at a fire during that time. When hung in a tower, it should be suspended by the male coupling. After it is thoroughly dry in tower, it should be brushed clean with a broom, coiled up and placed on a platform, raised a few inches above the floor. Thread connections should be cleaned and a small amount of vaseline or oil put on them after using. The hose should not be stored near chemicals, oils, iron rust, etc., as fumes arising from chemical processes are injurious to hose, and contact with them should be avoided. Avoid exposure of hose to very hot dry air. It should not be exposed when stored to the sun's rays. When it must be kept in hot dry places, it is best to pass water through it monthly.

We have had trouble with acid damaging fire hose, but if care is taken when charging chemical tanks so that the solution does not come in contact with hose and if connections in hose are tight, it will eliminate much of this trouble. Be careful that the gasoline tank on motor apparatus is perfectly air tight against drip and vapor. A small deposition of gasoline will separate the rubber from the fabric of fire hose and produce subsequent rupture when placed in service.

Hose when frozen is liable to crack, if bent while in that condition. Extreme cold causes deterioration of rubber but not sufficient to prevent storage of hose in cold hose houses or rooms, if thoroughly drained and dried.

New hose should never be allowed to remain in cases until it may be required, but it should be removed from cases and coils loosened.

I further believe that the hose tower is a better method of drying hose than the hose rack.

We have hose in service in Toledo since 1918 and it is still giving good service and passes the necessary test twice a year.

J. Murphy, Chief, Kingston, N. Y.: I find that proper cleaning and drying will preserve the life of fire hose. It has been my experience that the hose tower has the advantage over the hose drying rack in preserving the hose.

I have had considerable trouble with acid damage to fire hose. For some time I was at loss to know just what was causing the trouble. A small white spot

(Continued on page 792)

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What equipment should be placed in a smoke room?

What equipment should be placed in a drill tower?

What instruction should the men be given at the drill tower and in the smoke room?

With the Editor

Work Ahead For the Convention

The fifty-ninth annual convention of the International Association of Fire Chiefs will not only be unique in the experience of the body but will also in many respects be the most important in its history. The unique feature lies in the fact that this convention will provide the opportunity of meeting the Chiefs of Latin America on their own soil and in surroundings the most favorable to the success of this important and epoch-making event.

The holding of the convention in the city of Havana, Cuba, will provide an unexampled opportunity to discuss with Latin American Chiefs important problems of fire fighting and fire prevention. It is an undisputed fact that some of the Latin-American cities have been making tremendous strides along these lines and show fire loss records which shame those of many of the cities in the United States. In order to enable an easy exchange of ideas, it is planned to hold all sessions of the convention in two languages—Spanish and English—and three interpreters will be furnished by the Cuban Government to make the two-language meetings successful. It is hoped that as a result of direct invitations by the President of Cuba and the Mayor of Havana, several hundred of the Latin American Chiefs will attend the convention.

The result of this should be—and undoubtedly will be—that good will developed by the intellectual intercourse between North American and South American Chiefs will contribute greatly toward building up friendship between South and Central American and Insular countries and the United States, so desirable from the present day commercial standpoint. The excellent technical program which has been arranged and the fact that leading Chiefs throughout the country will address the convention will increase the interest in the gathering.

A matter which will also assist in making this convention of the greatest importance from a firemanic viewpoint is the nationwide educational program, which is being carried out by the association in cooperation with the National Board for Vocational Education of Washington, D. C. This matter will be brought prominently before the sessions and topics included in this course will be presented to the delegates at Havana. Over eight hundred pages of instruction have been prepared by leading Chiefs and the various topics are to be thoroughly discussed before finally putting the material in shape for publication. It is a significant fact that the association is financing the entire cost of this educational program, the dues of the members paying all of the expense of the work.

Incidentally, of course, there is the personal benefit which the delegates and their guests will derive and the enjoyment to be had in the journey to and the stay in the beautiful Cuban city. Every effort is being made by the local City and Fire Department authorities to make the stay in their municipality a pleasant one and from this point of view the expense incident to the convention should be looked upon as money well spent.

New Apparatus Practices on Chief's Home

It isn't often that the members of the Fire Department have the opportunity of saving the home of their Fire Chief. The members of a small department had just acquired a handsome new apparatus and were impatiently awaiting the first call to test its qualities as a fire extinguisher, when the alarm came, and lo and behold! it was from the residence of their own chief. That the boys made the quickest run on record in the department may well be believed, and the apparatus showed its worth, for the fire was put out in short order.

This proved to be one of the times in the history of the department that a residence had been saved without appreciable damage, so the members are doubly congratulating themselves, in that the new fire truck proved effective and that they were able to save the home of the head of their department from destruction.

Women as Fire Fighters

Once in a while one reads in the daily press of a Fire Department composed of the gentler sex, but as a rule this is not taken very seriously, the male fireman smiles indulgently and says: "Let them have their innocent enjoyment if they want it. They'll soon sicken of the job!" However, it seems that in Soviet Russia—where they delight to shock the good old world with innovations—the women have gone into fire fighting in real earnest. Recent despatches inform us that twenty-four "housewives" have been accepted as members of the Moscow Fire Department, and will take their places in the ranks on the same status as the male firemen.

How this experiment is going to work out is yet to be seen. The Russian woman is inured to hardship and has for years taken her place beside her more husky spouse in the work of agriculture. Of late, since the advent of the Soviet regime, she has gradually worked her way into the more strenuous branches of industry, and during the World War there were even formed companies of female soldiers.

However, the firemen on this side of the pond need

have little apprehension of being replaced by members of the other sex—at any rate for many years to come. The American woman does not take as kindly to the strenuous life as does her European or Asiatic sister. She is, in the first place not physically constituted to "stand the gaff" of the fireman's hard life, and it is safe to say that not one of the profession would want to see his wife or his sister exposed to the danger and hardships of the fire-fighting profession.

OHIO FIRE SCHOOL HOLDS SECOND SUCCESSFUL TERM

Dr. David J. Price and Other Well Known Lecturers on Program—Salvage Company from Cincinnati in Accident on Way to Columbus

By R. B. CRISWELL,
Ohio Inspection Bureau, Columbus, Ohio

WITH a total enrollment of 467 and an average attendance of 214 per session, the second annual Ohio Fire School held in Columbus, September 21-24, nearly doubled last years attendance, and was considered very successful.

The opening address was by T. Alfred Fleming, Supervisor, Conservation Department, National Board of Fire Underwriters, of New York. Mr. Fleming was a former State Fire Marshal of Ohio and his forceful address was enthusiastically received by his previous associates.

Mayor Thomas of Columbus Addressing Firemen-Students Assembled in the Stadium

Dr. David J. Price, Engineer of the U. S. Department of Agriculture, Washington, D. C., then delivered an address on "Recent Developments in Dust Explosion Prevention of Interest to Firemen." Dr. Price spoke not only about dust explosions but also about spontaneous combustion. He illustrated his talk with actual fire demonstrations from corn starch, and with two reels of movies.

On Monday afternoon a discussion and demonstration of the "Hydraulics of Hose Streams" was given by William S. Rathbun of the National Board of Fire Underwriters, Chicago. Mr. Rathbun showed, by gages inserted in the lines, the actual friction loss in hose of various sizes from 3-inch down to garden hose. Also demonstrations were given of various hose layouts, pumper relay work, etc.

On Tuesday morning a highly illustrated talk on the "Chemistry of Fire" was delivered by Dr. Jesse E. Day, Chemistry Department of the Ohio State University. He showed many chemical reactions which might cause fire and made startling demonstrations.

Following this the fighting of actual fires with various kinds of chemical extinguishers was staged by members ot the American-LaFrance & Foamite Corporation. These demonstrations were very spectacular.

Tuesday afternoon, at the University Stadium, many demonstrations were given by members of the Columbus Fire Department, Assistant Chief C. W. Ogborn being in charge. They showed aerial ladder work, short ladders, high streams, small hose, cellar nozzles, rope coiling, rope sliding, jumping, etc. These demonstrations were well received.

Tuesday evening nine reels of movies pertaining to fire prevention and protection were shown.

The first address on Wednesday morning was F. O. Evertz, Chairman of the Electrical Committee, Fire Prevention Association of Ohio. His subject was "Electrical Hazards" and his very interesting address was illustrated with eighty-five slides.

Mrs. Ethel Millhone, Assistant State Fire Marshal, then made a very brief talk concerning "School Work on Fire Prevention."

"Fire Streams on Electrical Lines" was discussed by Dale K. Auck, Engineer of the Ohio Inspection Bureau. Mr. Auck summarized the results of many tests and gave a digest of several publications on this subject. His talk was also illustrated with several slides.

The members of the Cincinnati Salvage Corps were unable to demonstrate salvage work Wednesday afternoon as scheduled, due to an accident. While driving to Columbus Wednesday morning in a heavy rain storm, their truck struck a traffic signal post and had its front end caved in. Several of the men were considerably bruised, but none seriously injured. Captain Conway was not with the truck as he was seriously ill in a Cincinnati hospital at the time. In the absence of the Cincinnati men, the Columbus Fire Department led an informal demonstration of salvage cover work.

During the latter part of Wednesday afternoon, an excellent demonstration of "Gas Masks and Resuscitation" was given by P. W. Moore of the State Bureau of Mines, assisted by S. E. Hassel of the Mine Safety Appliances Company. These men used a glass windowed gas filled booth and a guinea pig to demonstrate asphyxiation and resuscitation. They also showed various types of masks, helmets, etc.

Wednesday evening seven more reels of movies were shown.

Thursday morning the opening address was an "Automatic Sprinkler Systems" by J. R. Rowntree, of the Ohio Inspection Bureau. Mr. Rowntree illustrated his talk with about twenty slides and stressed the need of firemen becoming thoroughly acquainted with all the sprinkler installation in their districts.

Two Demonstrations at the School

Left, showing the operation of ladders for a hotel escape, and right, a step ladder made from twenty-foot extensions.

The final address of the course was on "Workmen's Compensation as It Applies to Firemen" by Ross Hedges, Claims Referee, of the State Industrial Commission. Following his address Mr. Hedges answered many questions and cited several specific cases pertaining to his subject.

Certificates issued by The Ohio State University were then presented to those attending the course.

A four-story drill tower has been erected in Las Vegas, N. M. It is forty-five feet high and is eighteen feet square. Drills are held under the direction of Chiefs Ilfeld and Brown.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Test Layouts

To the Editor:

Will you please answer the following questions?

1. What is the correct layout of hose to test a 1,000 gallon pumper for its capacity at 120 lbs. pressure at the pumper?

2. Also the correct layout of hose, for high pressure tests of a 1,000 gallon pumper with 200 lbs. pressure at the pumper.

K. J.

Answer: The layout usually employed for testing a 1,000-gallon pumper at 120 pounds pressure consists of the following:

Two lines of 2½-inch hose 100 feet long connected into a siamese, and with a 2-inch nozzle. This is for the 120-pound test.

For the 200-pound test, one line 2½-inch hose 100 feet long with a 1⅛-inch nozzle, or one line 200 feet long with a 1⅛-inch nozzle.

For the 250-pound test, one line 500 feet long with a 1-inch nozzle or a shorter length line can be used, and the additional friction loss obtained by throttling the gate valve.

In the first case, the nozzle is connected to the short length of lead line from the deluge set. Use only smooth bore nozzles. As the friction of hose varies, depending upon the age of the hose, it is impossible to give layouts that will be suitable in all cases, but the ones given will be found to be approximately correct.

Should the engine pressure be too high and the nozzle pressure about right, take out one length of hose. If the nozzle pressure is correct but the engine pressure is too low, either add a fifty-foot length of hose or throttle the gate valve and increase the pump speed.

Gas Pressure in Booster Tank

To the Editor:

Our mechanic has perfected a home made booster tank to fight grass fires, and our city engineer is of the opinion that it is dangerous. I would like to have your opinion on it.

He had mounted two eight-gallon tanks on a chassis, and placed a valve stem in it similar to that described by Chief Boaz of Henryetta, Okla., (published in FIRE ENGINEERING—April 1st, page 248). This is pumped to about 200 lbs. pressure and when the water is nearly out there is not sufficient pressure left to force all the remainder out, so we connected the tank to two of the spark plugs and have enough pressure to use the rest of the water. Our city engineer thinks there is danger of the gas coming from the motor and causing the tanks to explode. Do you think there is any possible chance for the tank to explode? The gas may burn after all the water was used up but if it did it would burn at the nozzle and couldn't possibly get back into the tank could it?

G. J. J.

Answer: There would be a real possibility of explosion in the water tank if the mixture of gas and oil from a cylinder were forced into it. But if only exhaust gases from a cylinder reached the tank, there would be little likelihood of explosion. In the latter case, the only possibility of danger would be in the event that a very rich mixture were used in the engine, and only a portion of the gas were burnt, the balance entering the tank and becoming mixed with the air present therein. In this instance, explosion might possibly occur.

If a safety gauze were placed between the cylinder and the water tank it would prevent fire from traveling from the engine to the tank when the gas in the cylinder is exploded. But there would still be the possibility of gases from the hose line igniting and the same traveling back into the tank. The impossibility of regulating gas mixtures, particularly where the engine has been in service for some time, to prevent unburned gas reaching the exhaust, would permit hazardous conditions under any circumstance.

An Unusual Fire

To the Editor:

In a recent fire I found several trays of celluloid 15 x 30-inch with edges turned up ¾ inch and held by a frame of wood strips. These trays were filled with ethyl gasoline. They were connected by strips of gauze, tissue paper and toilet paper; some were twisted into a rope.

The trays were placed on several folds of loose tissue paper and placed on first and second floors and stairway of a residence. All windows and doors were closed.

The fire in basement was put out in 15 minutes with a 2½-inch line, the fire in first and second floors went out for lack of oxygen. Some of the gas was still in the trays and some of the celluloid trays were partly burned. How do you account for the celluloid fire going out when I understand it will burn without oxygen?

C. M.

Answer: Celluloid will not burn without sufficient oxygen being present, although it will decompose, throwing off heavy yellow fumes, which in themselves are inflammable when mixed with air.

Here is what probably happened in the case of the celluloid trays being partly burned, but not decomposing:

The trays are comparatively thin, that is, the thickness of the celluloid at any point in the tray was probably but a fraction of a inch. The presence of gasoline in the tray kept the temperature of the tray down to a point below the decomposition temperature of the celluloid and as long as the gasoline was present, decomposition, as well as combustion, was arrested. Of course, the absence of sufficient oxygen in the air prevented the gasoline or its fumes from burning. The gasoline itself vaporizes readily, and this vaporizing process is a cooling process with the result that the tray was probably chilled where its surface was covered by the gasoline. The celluloid either burned or decomposed down to the gasoline line, and then the action stopped.

There is an old experiment which is frequently performed in physical laboratories and which well illustrates the point in this instance. A paper bag is filled with water and suspended above a Bunsen burner. Although the Bunsen burner produces a flame of terrific heat, it is impossible to burn a hole in the bag as long as there is water in the bag. In fact, the bag will blacken but will not char. The reason for resistance to charring or burning on the part of the bag is the ability of the water to conduct heat away from the point at which it is being received. In the instance you describe, precisely the same effect takes place, the gasoline conducting heat away from the edge of the tray at which heat is being generated by combustion or decomposition of celluloid. Hence the decomposition or combustion only takes place down to the gasoline line, at which point it is arrested.

Chief John Moore of Memphis, Tenn., has a new Cadillac V8 sedan for Fire Department use.

New Fireboat Launched by New York

Latest Craft to Become Flagship of the New York Fire Department Fleet—Will Advance Ideas in Boat Design

By WILLIAM JEROME DALY

SO nearly completed that she was able to throw a Niagara of water as soon as she slipped down the ways into Tebo's Basin, the new gasoline-electric twin screw fireboat "John J. Harvey" built by the Todd Shipyards Corporation for the City of New York was launched on October 6th and christened by Miss Anne Dorman, daughter of Fire Commissioner John J. Dorman. The new fireboat will have her trial trips when New York fire officials return from the Chiefs' Convention in Havana.

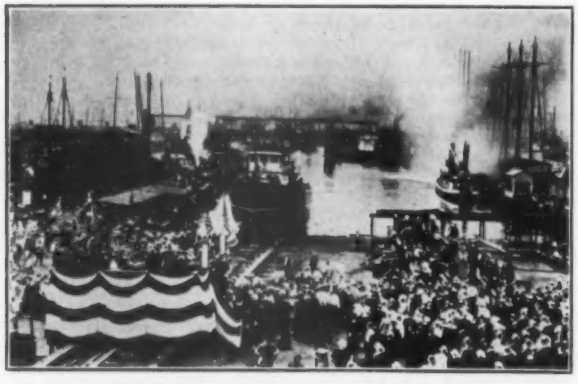
In the presence of thousands of friends of the Fire Department and the city administration, including the family of the late John J. Harvey, Pilot of the fireboat "Thomas Willett," who was killed on February 11, 1930, due to an explosion in the hold of a transatlantic steamer afire, the new craft slid into the water to the tune of countless whistles. It was showered by streams from other fireboats, including the Zophar Mills, the oldest fireboat in New York Harbor.

The Mills was ordered to the scene out of sentiment for "Bill" Todd, the shipbuilder. Forty nine years ago, in Pussey & Jones shipyards in Wilmington, Del., Bill Todd was one of the rivet-heater boys who softened rivets that went into the hull of the fireboat Zophar Mills. When the Harvey took to the water and immediately started to throw water from her eight deck guns, the Mills did likewise and the audience saw the oldest and the newest in action.

One of those who cheered the loudest for the new fireboat was John Kenlon, former chief of the New York Fire Department, who was in command of the department when the plans were drawn and when the contract was awarded. Fire Chiefs from metropolitan district of New York attended. They came from Newark, Hoboken, Jersey City, Mount Vernon and other places.

Following the launching, Mr. Todd gave a luncheon at the Hotel Bossert at which public and fire officials spoke. Miss Dorman, sponsor of the fireboat, was presented with a diamond bracelet.

A formidable looking craft, fashioned along battleship lines, the "Harvey" is 130 feet long, 123 feet on the load water line, 12 feet 9 inches in depth, 8 feet 6½ inches draught and 23 feet from water line to tip of the mast. She will make eighteen miles an hour. The boat will cost $594,000, but the cost of maintenance will be so comparatively negligible while standing by awaiting an alarm of fire that she will be the most economical of all fireboats. The "Harvey" will not only



A Large Crowd Saw the New Fireboat Slide Down the Ways

The fireboat "Zophar Mills," the oldest in the city's service, is shown at the right pumping water into the air.

be fast on the getaway, but there will be no banked fires to be sliced as obtains in a coal burner and practically no expense when not under way.

"New York City has not had a new fireboat in ten years" Fire Commissioner Dorman declared. "The 'John Purroy Mitchel' was built in 1921. This new fireboat, which will take the 'Mitchel's' place at the Battery, will be 204% stronger in horse power and 78% greater in pumping capacity."

The "Harvey" has been built in conformity with the standards of the American Bureau of Shipping and was designed

A Noted Group at the Ceremonies

From left to right, John J. McElligott, Assistant Chief of the New York Fire Department; Miss Anne Dorman, who sponsored the craft and the daughter of Fire Commissioner John J. Dorman, and John Kenlon, former chief of the New York Fire Department.

by Henry J. Gielow, Inc., Naval Architects, of New York City.

When under way, or in action at a fire, the exhaust of her motors is arrested and baffled for heating purposes and this heat is carried through the crew's quarters and under her steel decks is sufficient temperature to prevent ice or sleet formation. When standing by at her berth, heat is maintained by a small fuel oil burner. On the other hand the new boat has an air conditioning room with blowers which purify the air below deck at 2,000 cubic feet a minute to prevent gases or fumes from permeating the hull where the engine crew work and sleep.

As a fire fighter, Mr. Dorman said, the "Harvey" will not only be the flagship of the fleet of eleven fireboats, but "she will be the envy of the fire fighting armada of the world."

Her five gasoline engines of 548 horsepower will give her a total of 2,740 horse power to drive both propelling motors and pumps. This is 204% stronger than the best fireboat now in service in New York harbor. A 340-kilowatt generator will feed two propelling motors of 1,065 horse power each. The engines in the "Harvey" were built for double duty by the Sterling Engine Company and will propel the boat and operate the pumps simultaneously. There are four pumps of 4,000 gallons each, giving the new flame fighter a total of 16,000 gallons of water a minute at 150 pounds pressure, which is 78% greater than the pumping capacity

of the "John Purroy Mitchel." All the electrical equipment is by the Westinghouse Manufacturing Company.

With propelling motors and pumps working in combination at maximum, the fireboat's gasoline supply is sufficient for twenty-four hours continuous service. The two gasoline tanks of 2,000 gallons each are protected by the Aqua system—as gasoline is used water replaces it in the tanks so that at no time is there space or cause for the formation of explosive vapors.

The new fireboat is a model of self-protection in addition to being a leader in the protection of other property. She has a carbon dioxide fire extinguishing system protecting the engine room and the gasoline tank compartments. The system has three remote controls which are operated by the "break-the-glass-pull-the-handle" method to release the entire battery of carbon dioxide for fire extinguishing. In addition, there are perforated pipes around her decks and superstructure which will cover the entire boat with water when working close to a blazing wharf or oil barge or ship.

The new boat has been referred to as the "battleship" of the fire fleet as well as the "flagship" because of her eight water guns; one on the main deck forward of the pilot house, two atop the pilot house, two amidships on a platform over the deck and three on the platform of a steel mast, fashioned like the battleship type. In addition there are two manifold units on the main deck amidships, each with twelve discharge gates to hose lines. Those lines may be stretched ashore or to portable rail pipes mounted along the gunwale. The boat will carry 3,250 feet of hose and four tons of chemical powder, which, when generated with water, will produce 64,000 gallons of fire foam for oil or gasoline fires. The "Harvey" carries an auxiliary fireboat which can be lowered overside by a davitt for fire fighting in shallow water or under piers. It has a 75-gallon pump.

Fire Commissioner Dorman fairly beamed with satisfaction as he told about how the new fireboat will have sufficient horse power to drive a freighter 14 knots an hour, and sufficient electrical energy to lift 36 tons to the top of the Empire State Building in a minute, or to supply power for light and heat for a town of 6,000 homes. "Pumping at full strength," Mr. Dorman said, "the new fireboat will be capable of supplying sufficient water to fill a reservoir to meet the industrial and domestic needs of a community of 178,000 population to fill 800 bath tubs in a minute."

Date Set for N. E. Chiefs' Convention

Announcement has been made by Secretary John W. O'Hearn that the tenth annual convention of the New England Association of Fire Chiefs will be held in Newport, R. I., on June 21-24, 1932. Chief Joseph S. Lawton, of Newport, president of the association, has already started on plans for making the visit of the Chiefs to Rhode Island a memorable one and an excellent program is being arranged.

HARRY BELKNAP.

Boston Stages Water Exhibition

The Boston Fire Department gave a spectacular demonstration of high pressure streams on September 30 at Congress Street ond Dorchester Avenue for the benefit of the delegates attending the convention of the New England Water Works Association. Two fire boats joined in the exhibition from the Fort Point Channel, pumping streams of salt water high in the air.

The total amount of water thrown was approximately 32,000 gallons per minute. Sixteen lines of hose were laid from high pressure hydrants to wagon guns, water towers, and deck pipes. The hose was two and a half inch and three-inch rubber lined cotton hose. Morse tips were used ranging in size from two-inch to inch and three quarters and inch and five eighths. There were fourteen streams thrown from the land apparatus drawn up on Congress Street, including two water tower streams.

At the start of the demonstration the pressure was 160 pounds and this was increased to 175 pounds, 200 pounds, and finally to 225 pounds per square inch, the power being furnished by the high pressure pumping station. The two fireboats which participated in the exhibition were Engine 47, the "John P. Dowd" with a capacity of 6,000 gallons per minute, and Engine 31, the "Thomas A. Ring" with a pumping capacity of 3,000 gallons per minute. Engine 47 used 5 guns and 3 rail pipes and Engine 31 operated 4 guns and 3 rail pipes.

All orders to the fireboats as well as announcements were made over the radio from the fire alarm headquarters, an amplifier being used to carry the words to the throng in the streets. Searchlights and flood lights illumined the scene and the spectacle was one of singular beauty.

The officials at the scene included Fire Commissioners Edward F. McLaughlin, Chief Henry A. Fox, Assistant Chief Henry J. Power, Deputy Chief Louis C. I. Stickel, District Chief John Kenney, and Supt. of Maintenance Edward E. Williamson.

HARRY BELKNAP.

N. J. Chiefs and Firemen Meet

Annual meetings of the New Jersey State Firemen's Association and the New Jersey State Fire Chiefs' Association were held in Atlantic City, N. J., September 18. The firemen's convention, however, lasted two days.

Charles Hasselhun, of Carlstadt, was elected President. This was the first time in fifty-three years that the association of firemen was faced with the necessity of electing a new President. This vacancy was created by the recent death of Gen. Bird W. Spencer.

Chris Greenfield, of Kearny was re-elected President of the Chiefs' association for the fourteenth term, at the annual meeting held in the Vernon Room of Haddon Hall. Five hundred members were present. Other officers who were re-elected include Charles N. Nickerson, Wildwood, Vice-President; Frederick A. Trowbridge, Morristown, Secretary; George Mitchell, East Orange, Treasurer, and W. Z. Ziegler, Hackensack, Trustee for three years.

The danger of transporting motion picture reels in non-fireproof vehicles and the danger of trailers being used on automobiles were informally discussed.

The Chiefs witnessed a demonstration of a device which is designed to eliminate false alarms. A motion picture is taken of the person turning in an alarm, and a loud siren starts shrieking at the same time the camera is set in motion.

Dr. Spellman Named Medical Examiner

Dr. Martin H. Spellman has been appointed medical examiner of the Boston Fire Department, succeeding Dr. William J. McNally who has been retired on pension. Dr. Spellman was born in Whitman, Mass., and was graduated from Georgetown University. He served during the World War with Evacuation Hospital No. 1 overseas. He is a member of the staff of St. Elizabeth's Hospital in Boston.

HARRY BELKNAP.

Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities:

Ridgefield Park, N. J.—Frank Hammel.
Correctionville, Ia.—Carl Allen.
Camden, Ark.—Charles Jones.
Centerport, N. Y.—Thomas H. Utter.
Spencerville, Ohio—Edward Leis.
Pardeeville, Wis.—Orris O. Smith.
Columbia, Cal.—Merrit McLaughlin.
Nevada City, Cal.—Richard Goyne.
Dunsmuir, Cal.—Arthur Pickthorn.
Berwyn, Ill.—James Hrack.
Fort Lee, N. J.—James Wood.
Minden, Neb.—Olaf Johnson.
Mt. Holly, N. J.—John Throckmorton, Jr.

Rome Firemen Receive Gift

The Fire Department of Rome, Ga., received a $100 check from the owner of a lumber company in appreciation for the good work of the department in preventing the spread of fire.

When the company arrived, flames had broken out on the two top floors of three-story wood planing mill. Seeing that it was impossible to save the main building, Chief H. L. Taylor directed his efforts to save the other buildings, ten and twelve feet from the one on fire. In this he was successful. Seven hydrant streams and lines from a 1,000-gallon and a 750-gallon pumper were used.

Contracts have been awarded in Parkersburg, W. Va., for the construction of two new fire stations, one to be located at Sixteenth and Covert Streets and other on West Virginia Avenue.

Both the Street and Fire Departments of Oshkosh, Wis., were called to fight a fire in a nursery, one mile west of the city. Lacking a normal water supply, the Street Department was called and two street flushers were ordered out. Lines were stretched from the 1,500 and 1,200-gallon water tanks to supply the pumpers. As one was being emptied the other was being filled.

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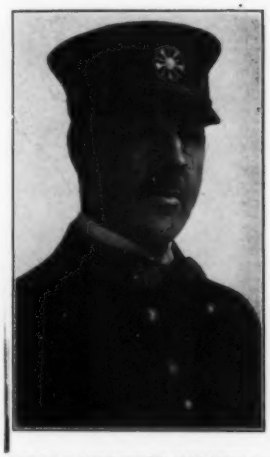

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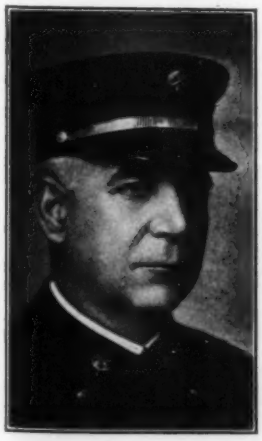

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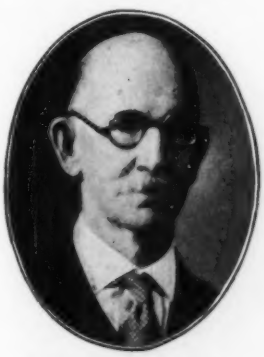

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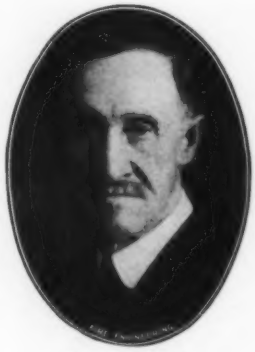

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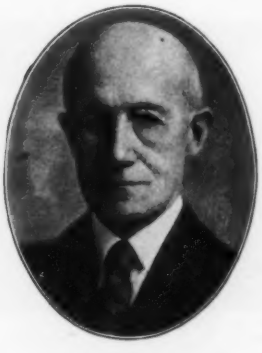

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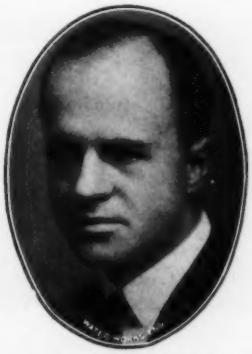

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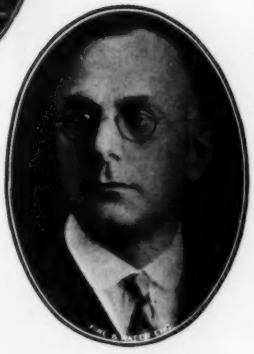

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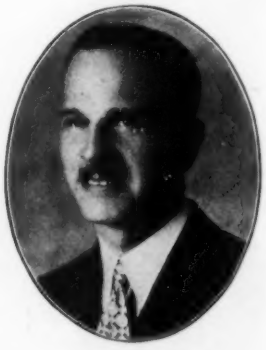

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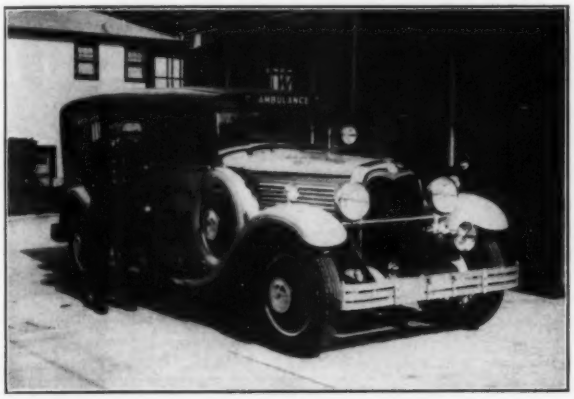
Two Departments to Do First Aid Work

Two volunteer fire departments of Northern Virginia have the distinction of being the first in the state to include in their equipment modern ambulance and rescue squad vehicles.

The Alexandria department has just placed in service a fully equipped ambulance that was purchased from the Meteor Company, of Piqua, Ohio, while its neighboring country of Arlington received an American-LaFrance rescue squad car. The car may also be used to transport injured persons.

Both vehicles will be manned by men who have passed both the standard and advanced courses of American Red Cross first aid work. The Alexandria department has more



Fire Department Ambulance in Alexandria, Va.

than fifty men available for rescue work while the Jefferson District Department, to which the Arlington apparatus was assigned, has twenty-fire men on its rolls who have qualified.

The Alexandria apparatus was presented the city by Potomac Rescue Squad No. 1, whose members raised $3,000 in a public drive. The squad now is undertaking a drive to raise funds for purchase of a small squad car to carry equipment to supplement that carried by the ambulance.

The ambulance is equipped with a Bomgardner cot and one suspended litter. The attendants' seats can be removed

Rescue Squad Car Operated by Arlington County

and a third patient laid on a stretcher on the floor. An emergency cabinet is provided with two thermos bottles which are kept filled with hot and cold water. Gas masks and an inhalator are among the equipment carried.

The vehicle responds to all calls in and near the city. It is powered with a 115 horsepower, straight eight Continental motor and is guaranteed to make eighty-five miles an hour.

Addition of the rescue squad car to the Arlington County department supplements eight triple combination pumpers and one city service truck already in service. All are American-LaFrance make and have been purchased in the past three years.

The squad car was designed by Chief Glen W. Bixler and built along the lines of the Washington, D. C. car. A Kohler electric plant supplies current for both fixed and portable searchlights and tools. Respirators, gas masks, stretchers, first aid kits, foam generators, tetrachloride extinguishers, and tools for "jail breaking" are among the equipment carried.

The car will accommodate ten men besides the driver. It is painted white and is equipped with a revolving warning signal and a siren. A 114 horsepower motor supplies ample power for long runs the apparatus is expected to make in all parts of the county.

Both the Alexandria ambulance and the Arlington County rescue car will be available next year for service during the celebration of the bicentennial of the birth of George Washington, which is expected to bring millions of people to this section of the country to visit the home of the First President at Mount Vernon.

E. E. LAWLER, JR.

Massachusetts Firemen Meet in Lynn

The fifty-second annual convention of the Massachusetts State Firemen's Association was held in Lynn on September 22, 23, and 24 with sessions at the New Ocean House in Swampscott. Chief Edward E. Chase, of Lynn, and Chief James Warnock, of Swampscott, acted as hosts to the convention.

On the opening day there were addresses of welcome by Mayor J. Fred Manning, of Lynn; Timothy A. Curtin, President of the Lynn city council; Senator William F. Shanahan, of the first Essex district; and R. Wyer Greene, chairman of the Swampscott Board of Selectmen. The response was by Chief William C. Mahoney, of Peabody. Other speakers were Captain John Day, of the Lynn Fire Department; and Chief William H. Hawkins, of the Haverhill Fire Department. The report of Secretary Daniel J. Looney showed that the total membership in the association is now 8,890.

The speakers on the second day were Congressman William P. Connery, of Lynn, representing Governor Ely; Attorney General Joseph E. Warner; John W. Reth, State Fire Marshal; Ex-Mayor Ralph E. Bauer of Lynn; William H. O'Brien, of the State Department of Public Utilities; W. E. Leighton, of the Bureau of Explosives; Theodore A. Glynn, ex-Fire Commissioner of Boston; Peter E. Carr, Commissioner of Public Safety, Lawrence, Mass.; and Mrs. Flora C. Day, President of the Ladies' Auxiliary of the association. The annual memorial address was given by the Rev. George W. Casey, of Swampscott.

On the final day reports were received and officers elected for the ensuing year. Edward J. Coveney, of Boston, reported as commissioner for the $18,000 firemen's relief fund. Michael J. McGonagle reported for the legislative committee. A telegram of greeting was read from Chief John W. O'Hearn, secretary of the New England Association of Fire Chiefs.

Deputy Chief James S. Koen, of Salem, was unanimously re-elected president of the association and all the other officers including First Vice-President Joseph J. King, of Lawrence; Second Vice-President F. T. J. McNamara, of Swampscott; and Sergeant-at-arms W. A. Adams, of Worcester. Captain Michael F. Turner, of Newton, was chosen as a commissioner of the relief fund. Chief William C. Mahoney, of Peabody, Lieut. Michael J. McGonagle, of Boston, and Louis E. Shea, of Fall River, were elected directors of the association.

The entertainment features included a dance, vaudeville show, banquet at the Lynn Armory, and parade of the Lynn Fire Department headed by Mayor J. Fred Manning and Chief Edward E. Chase. The recently organized band of the Lynn Fire Department gave a concert at the armory and Chief Chase was presented with a gold watch by the members of the department.

HARRY BELKNAP.

Funds are being raised by the Fire Department of Scio, Ore., for the purchase of equipment.

Guerneville, Cal., may extend its fire limits. Petitions are being circulated asking for the extension of the fire district limits so that many summer homes will receive the benefits of fire protection.

The Council of Salem, Ore., is considering the question of having civil service regulations for members of the Fire Department. The council also considered instruction for the firemen. Portland, Ore., offered to provide the instruction at no cost if the firemen attended the Portland school, or at actual cost if Portland instructors trained Salem firemen in Salem.

Breaking Up an Arson Ring

(*Continued from page 760*)

fire "loomed up" it meant that the time fuse method had been decided upon.

With the close of the Saturday night business, the "sale" had been in progress two days, and although Chief Minter and Assistant Chief Jewell apparently went about their business as usual, neither official strayed more than ten feet from a telephone.

Nothing happened Saturday night. On Sunday night the police detail and Etzell, head of the Fire Prevention Bureau, were on their toes, but again the night passed without incident.

The "Torch" Enters the Store

Just before the close of business on Monday the proprietor, accompanied by the "torch," entered the store. The "torch" was carrying a package. Watching officers nudged each other. The show was about to start.

The last employees emerged, bid each other good night, and went their several ways. In the west the sun sank lower and lower. As the twilight was giving way to deepening shadows, two men came out of the millinery store. They were the proprietor, Morris Shapiro, and his companion from St. Louis. The "torch" was carrying a large sack. With a few hurried words of parting, the pair separated, Shapiro going north and the gangster going south.

The Arrest

From their place of concealment three civilians emerged. Two were police officers Buesch and Haskins and in the right hand of each appeared the dull glow of blue steel. Only a few months before, in a battle with members of the Ralph Sheldon gang, an officer had been shot through the spine, and crippled for life. The "torch," whose name was Frank Altman, was reported to be a tough egg. So the officers were taking no chances. The third was Etzell.

Ignoring Shapiro, the trio crossed Pine Avenue carefully so as not to arouse the suspicions of the proprietor. It would be an easy matter to pick him up later at his home, where he was sure to go in order to establish an alibi. Altman turned the corner, walking in the direction of police headquarters. The officers swooped down upon their bird and the arrest was made without incident.

Caught Red Handed

Returning hurriedly with their prisoner to the millinery store, Etzell kicked in the glass of the front door, and the quartet entered. There before them was a layout that, but for the advance information received by officials, would have caused a roaring inferno within a few hours. Near the back of the narrow store was a litter of newspapers. (Fig. 1.) Set in the middle of the papers stood a lighted plumber's candle. Investigation showed that the candle was resting in a celluloid vanity case partly filled with liquid floor wax. Long deep drawers along both sides of the store were all open, and paper streamers led from the central pile to the drawers. Liquid floor wax had been poured over the papers. When arrested, Altman was carrying an empty floor wax can, and a bag of hats.

The Alibi Is Set in Motion

Shortly after the arrest of Altman, officers hurried to the home of Shapiro where they found the machinery of the alibi in motion. A friend of the millinery store proprietor had just arrived to spend the evening with him at Shapiro's invitation.

While police were questioning the two men, Sergeant Woodruff, police photographer, went to work on the evidence with his camera.

When news of the arrests was flashed to St. Louis, Underwriters, who had all the information they needed, obtained a warrant for the arrest of the leader, Joseph Ritter.

The "Torch" Confesses to Fourteen Arson Attempts

Meanwhile, Altman was confronted with the evidence against him. Every move made by him during more than one month was recounted, to his utter astonishment. Seeing that further denial was useless, he confessed. In his statement, he admitted being paid $200 in St. Louis by Ritter, and $150 by Shapiro. Altman also confessed participating in fourteen arson attempts arranged by the St. Louis gang.

On the day of Altman's confession, Ritter was arrested in the eastern city.

The Leader of Gang, Arrested, Commits Suicide

With the three principals in jail, and reams of evidence ready to be produced in court, Long Beach police prepared for the extradition fight that they felt sure Ritter would put up. A Long Beach warrant was rushed to St. Louis. Detective Sergeant LeBarron was selected to go east to bring Ritter back. Suddenly all plans were thrown into the discard, for it became unnecessary to extradite the gang leader. Joseph Ritter, former St. Louis politician, arson gang leader, and arch criminal, couldn't stand the gaff. They had his number and none knew it better than he. He was found in his palatial home, a suicide. No longer would he direct the activities of his mob of friends. No longer would his "torches" run rampant over the country burning business establishments at so much per fire. Ritter's book was closed.

Fire Set, Not for Insurance, But to Break Lease

Contrary to popular belief, police say that the purpose of the set-up was not for the insurance money even though appraisers stated that the stock in the millinery store was valued far below its stated worth in the insurance policies. The object was the breaking of Shapiro's lease.

The store had been leased by Shapiro for ten years at a figure said to reach almost $1000 per month. There was said to be a clause breaking the lease if anything prevented the continuous operation of the store as a going concern. After a severe grilling, police reported that it was merely Shapiro's intention to break the lease, which still had nearly nine years to run.

As this is written, each of the pair has been charged with three counts of conspiracy and three counts of attempted arson.

Underwriters were elated over the Long Beach arrests. They state that it is an opportunity they have eagerly sought throughout the country for years. As soon as the arrests were made, insurance undercover men quietly withdrew from the picture. For obvious reasons they do not come out into the open, and for the same reasons they remain nameless in this account.

With the Underwriters ever on the qui vive, and fire and police officials on their toes and working together in harmony; and with new model arson laws being written into the statute books all over the country, arson gangs had better turn to some other line for their livelihood.

By a good majority, Hicksville, N. Y., has voted to erect a new fire station to cost $80,000.

Firemen of Portland, Ore., has voted to postpone their demands for a day off a week until the 1932 November election. It has been estimated that this postponment will save the city $160,000 next year. The firemen realized that the city council this year was working under a handicap.

LIGHT

ANSWERS GARY'S NIGHT ALARMS!

In Gary this squad car is also known as the Light Truck. Notice the Kohler Plant installation.

THE Fire Department at Gary, Indiana, uses Kohler Electricity to provide light at all night fires, also at any fires which require work in dark, smoke-filled buildings. A Kohler Electric Plant is mounted on a squad wagon. This wagon is equipped with 150 feet of cable attached to a portable light, with two 500-watt floodlights, and with one 500-watt spot-light.

FIRE DEPARTMENT
CITY OF GARY
FRANK PARKEY, *Chief*
GARY, INDIANA

May 28, 1931

Kohler Co., Kohler, Wis.

Gentlemen:

We have had a Kohler Electric Plant installed on our Light Truck since March, 1929, and find that same has proven very satisfactory.

I do not hesitate to say that I think the Kohler Electric Plant is a very good plant for a Fire Department.

Yours very truly,
(Signed) FRANK PARKEY,
Chief of Gary Fire Department.

Kohler Electric Plants are ideally adapted to installation on fire trucks. Rugged and sturdy, built to withstand the jolts of fast driving, they are also compact. Some of the smaller Kohler models can be mounted on the regular fire equipment, taking up little space, and providing the safety of light in all emergencies.

Every fire department needs the efficient protection rendered by Kohler Plants at small expense. Send the coupon for additional information. Kohler Co. *Founded* 1873. Kohler, Wis.—*Shipping Point*, Sheboygan, Wis.—*Branches in principal cities*. . . . Manufacturers of Kohler Plumbing Fixtures.

KOHLER OF KOHLER ELECTRIC PLANTS

KOHLER Co., Kohler, Wisconsin

Gentlemen: Please send catalog describing Kohler Electric Plants.

*Name*_____

*Street*_____ FE-10-14-31

*City*_____ *State*_____

*Use in which interested*_____

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Standard for Over Fifty Years

The Finest Badges It is Possible to Produce at a Reasonable Price

BRAXMAR BADGES

are Worn by More Chiefs than Any Other Make

THERE must be a reason for the popularity of Braxmar Badges among fire chiefs everywhere. Most chiefs say they like them because they are always bright and never seem to wear out. We ourselves know that when you select the finest German Silver—put it in the hands of a craftsman with a lifetime of experience behind him—that a really fine badge is the result.

Our new catalog containing complete list of new designs is yours for the asking . . . write for it now!

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Formerly located at 10-12 Maiden Lane

Ready for Action

Note Manner in Which Curved Tank Fits Back Snugly Leaving Arms Free.

The Smith
INDIAN
Fire Pump

is unequalled for extinguishing grass, brush, awning, roof and such fires quickly and economically. Uses clear water. Highly recommended by fire chiefs, forest Rangers and others. Throws 50 ft. stream.

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417 Main St., Utica, N. Y.
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369 Pine St., San Francisco; 7451 Willoughby Ave., Los Angeles; Marion Bldg., Seattle

WRITE FOR FOLDER

Agents Wanted

Heavy Brass Pump 5 gal. tank

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The HOOBEN SPANNER

What Every Fire Fighter Needs

A spanner that will not slip on 2½-inch hose coupling, even with a light coating of ice on. For ¾ and 1-inch Chemical line. Fits any Gas Shut-off at Meter in domestic use.

Also spanner with chisel or jimmy end, which in an emergency will break plaster, rip off lathes or pry window or door open.

TRY ONE CHIEF AND SEE FOR YOURSELF

The HOOBEN SPANNER
349-351 BAY ST. TAUNTON, MASS.

ALB QUICK HITCH PANTS
and RUBBER FIRE COATS

Used by some of the largest fire departments in the country. These outfits should be standard in every worth while department. They go on in a second—last for years—and you can't beat these prices.

COATS—Size: 38 to 46.....$6.50
PANTS—Size: 32 to 42.....$6.00
(Slightly higher for larger sizes.)

Ask your dealer for ALB—he can get them for you or write direct.

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and DECK GUNS are
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Builders of equipment to meet your requirements. Specializing in Apparatus for Rural Fire Fighting.

BOYER FIRE APPARATUS COMPANY
Logansport, Indiana

G

The new Rensselaer Catalog "G" is now ready for distribution. Officials desiring the latest information on RENSSELAER VALVES and COREY HYDRANTS are invited to fill in and mail the coupon below.

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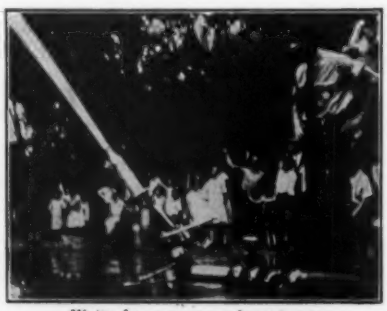
THE NEW EASTMAN DELUGE GUN

is a portable turret pipe that can be used on the ground or mounted on the apparatus. This photo shows our three-way gun used on the ground, connected to two lines of hose. This gun may be furnished with either two-way, three-way or four-way Siamese, as desired.



Write for new general catalogue

SAMUEL EASTMAN COMPANY
Concord, N. H., U. S. A.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they given an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Week Ending October 2

	Loss in Thousands of Dollars
BERLIN, MD.—Adkins Lumber Co. plant destroyed	25
ST. PAUL, MINN.—Whse. of Minnesota Transfer Storage Co.	25
PHILADELPHIA, PA.—Buchan Telephone Records Co. damaged	45
LINEVILLE, IA.—Property of several business establishments	25
EAGLE GROVE, IA.—Store of R. A. Baker & Son destroyed	25
LITHONIA, GA.—J. C. Johnson & Sons store destroyed	45
VALOIS, N. Y.—Post office and other business property	65
MINNEAPOLIS, MINN.—Factory of Lawson & Nelson Co.	45
ALPENA, MICH.—Three story business block destroyed	75
MORGANTOWN, W. VA.—Dorothy Mine tipple owned by E. Stantz	35
SUFFOLK, VA.—Suffolk Peanut Co. plant destroyed	25
WILLOW LAKES, S. DAK.—Three elevators destroyed	25
ERIE, PA.—Union Fish Co. plant destroyed	45
LOUISVILLE, KY.—Plant of Foreign & Domestic Veneer Co.	80
POMPTON PLAINS, N. J.—Garage of Butler-Newark Express Co.	65
SPIRITWOOD, SASK.—Yards of West Lumber Supply Co.	35
ATLANTIC CITY, N. J.—Ocean House, S. Arkansas Ave., damaged	25
WAYNESBORO, PA.—Gelbach-Stouffer business block damaged	45
HARTSVILLE, S. C.—Bldg. and contents of Public Cotton Whse.	25
LACOMBE, ALTA.—Stock barns on farm of J. L. Walters	35
RIDDLESBURG, PA.—Business and residential property	30
CHICAGO, ILL.—Bd. of Education garage damaged	25
WESTMINSTER, VT.—H. C. Baxter & Bros. canning plant	80
N. WOODSTOCK, N. H.—Woodstock Inn, owned by C. J. Ryder	25
HANOVER, N. H.—Sigma Chi Fraternity house, Darmouth College	35
TAYLORSVILLE, MISS.—Several business establishments	40
E. CARNEGIE, PA.—Union Elec. Steel Co. plant damaged	25
McDONOGHVILLE, LA.—Monroe St. business and residences	25
HAZELHURST, MISS.—Plant of Hazlehurst Compress Co.	80
HUNTSVILLE, ALA.—Whse. of Jones & Baugh damaged	45
MADERA, CAL.—Alta Hotel destroyed	160
LAKE HOPATCONG, N. J.—Castle Edwards, 3 adj. bungalows	65

Week Ending October 9

CLARKSBURG, ONT.—Masonic Hall and adj. property	45
CEDARVILLE, ONT.—E. A. Allen elevator destroyed	25
BRENTWOOD, CAL.—Plant of H. P. Farm Co. destroyed	45
CENTERVILLE, IOWA—Centerville Clay Products Co. plant	25
MANNSVILLE, N. Y.—Milk station of National Dairy Products Co.	45
MANKATO, MINN.—Store of F. W. Grand & Silver	25
GLEN ULLIN, S. DAK.—Columbia Hotel, adj. business property	60
SPRINGVILLE, N. Y.—Spaulding homestead at Morten's Corners	25
FOSS MILLS, ONT.—Stock of Fassett Lumber Co., adj. property	300
ST. PAUL, MINN.—Repair shop of Northern Pacific R. R.	25
MUSKEGON, MICH.—Bldg. occupied by Bishop Furniture Co.	45
BUTTE, MONT.—Broudy's clothing store damaged	35
MONCTON, N. B.—Skating rink and hockey stadium	100
ATLANTIC CITY, N. J.—Yards of West Side Lumber Co.	35
HERMITAGE, ARK.—Property of Bradley County Mercantile Co.	25
CHICAGO, ILL.—Elevator and offices of W. J. Byrnes & Co.	45
CONNERSVILLE, IND.—Senior high school buildings destroyed	300
ADA, OKLA.—Plant of Ada Cotton Oil Mill Co. destroyed	65
MEMPHIS, TENN.—Vulcan Iron Works plant damaged	50
CRANDALL, TEX.—Gin plant of East Texas Cotton Oil Co.	25
YORK BEACH, N. H.—Turner House, garage and two cottages	25
CINCINNATI, OHIO—Farm property of Mrs. Eustis, Indian Hill	35

Two New Stations for Ft. Worth

(*Continued from page 762*)

Worth Fire Alarm Central Office is given below:

3 20-ckt. Floating Battery Switchboards
10 4-ckt. Box Line Operating Boards
2 4-ckt. Primary Alarm Operating Boards
2 4-ckt. Secondary Alarm Operating Boards
1 Low Current Alarm Set
1 60-ckt Protector Boards
1 Operator's Pedestal of:
- 2 Peerless Transmitters
- 2 8-ckt. Multiple Keys Spring Jack Switches
- 2 Locking Yoke Telegraph Keys
- 1 4-ckt. Nonpareil Register
- 1 Excelsior Time Stamp
- 1 60-ckt. Box Line Frame

1 Box Line Recording Set of:
- 10 4-ckt. Nonpareil Registers
- 10 Peerless Take-up Reels

1 Primary and Secondary Recording Set of:
- 4 4-ckt. Nonpareil Registers
- 4 Peerless Take-up Reels

1 Self-Winding Clock
4 90" 5-shelf Metal Battery Racks
900 Cells BTIS Battery

Cost of Land, Buildings and Building Equipment

Item	Central Fire Station	Fire Alarm and Signal Building
Land	$63,662	$21,581
Buildings	110,743	34,282
Plumbing	7,952	3,713
Heating	11,784	2,497
Electrical	3,367	825
Furnishings	4,715	300
Equipment Fire Alarm	398	71,184
Cable		38,241
New Fire Alarm Boxes		14,120
Miscellaneous Equipment		30,440
Shop Equipment	2,836	
Totals	$205,457	$217,183

Total Investments $422,640
Estimated present annual savings in Fire Insurance premiums paid by Fort Worth citizens due to these improvements $22,500

General Information Fort Worth Fire Department

271 Officers and men employed in Fort Worth under Double Platoon System

Upper—The Gymnasium. Lower—The Dormitories.

24 Fire companies occupying 21 stations.
Present fire department budget ..... $500,840.
Of this salaries amount to ..... 450,120.
36 Pieces of motorized equipment and 35 automobiles.
23 miles of underground fire alarm cable.
70 miles of overhead fire alarm wire.
402 Fire Alarm Boxes in City.
33 Street traffic signals controlled from Fire Signal Station.
40,000 feet of fire hose in service.
Four mechanics constantly employed, repairing and rebuilding apparatus.
Total value of the fire department (Land, buildings, equipment), ... $1,360,600.

The Round Table

(*Continued from page 766*)

would appear on the jacket, this spot would grow larger and pulverize. After some research work I found that water draining slow or that is held in suspension in the sections of fire hose for a certain time would absorb enough sulphur to make a solution that is akin to sulphuric acid. This acid coming in contact with the hose destroys the fibers which make up the jacket.

Our streets today having oil and gasoline which leak from automobiles, these are picked up by hose lines; the auto which sometimes run over hose lines; improper care and acid conditions, are some of the factors which decrease the service of fire hose.

Earl J. Reynolds, Chief, La Porte, Ind.: The following method is used in our department with regards to handling hose:

As soon as possible after using hose at a fire, it is hung full length, by the male coupling in our tower. It is left hanging there until it is thoroughly dried out, inside and outside (from four days to a week). When dried it is taken down, laid on the floor and swept on both sides. It is then rolled up and placed in a rack. We try to rotate our hose each time we use any, thereby giving all the same treatment.

We have had very little damage to hose from acid. There is not much damage by acid here now as we have installed all booster tanks.

The shutting off of a nozzle on a heavily charged line will strain the hose to the utmost. Our biggest trouble with hose being damaged is the fact that some contractors borrow hose and after using it leave it rolled up along the street exposed to the sun. Incidentally, the contractors don't get the best hose any more. We give them what we call "sprinklers."

G. T. Haskins, Asst. Chief, Greenwood, Miss.: The life of hose may be increased by running water through it at least every 30 or 50 days when not in use, by keeping in a cool place and by turning is over once in a while. I do not dry the hose on the concrete floor after washing, because the temperature at the floor line is about 70 degrees or over and such heat is very injurious to hose. I find that the hose tower is best where hose can be stretched full length without any strain. One must be sure, however, that the hose tower does not allow rain to enter for this will mildew the hose. Another factor in preserving the life of hose is to keep it away from gasoline.

Acid damage has caused our greatest loss in hose. We have changed our soda-acid tank to a booster and that is a great saving in our hose. Last year we lost fourteen lengths of hose on one pumper, and this year we found but one defective length.

We use Eureka fire hose and find it very satisfactory. If the department will do its part in protecting the hose, it will find that the hose will give many years of service.

C. E. Underwood, Chief, Manistique, Mich.: Our hose is cleaned upon returning from a fire and then it is hung in a well ventilated tower to dry. It is only left there long enough to dry and then is taken down, and a cup of water poured into each length. It is rolled up loosely and placed in a rack. Hose is never left in the rolls or on apparatus more than thirty days at a time. The hose is stored in a cool, well ventilated place and is never left in a close, heated room except while on the apparatus.

We have had trouble in past years with acid damaging hose but have eliminated this by the use of booster tanks instead of chemicals.

The main factor for decreasing the life of hose is its improper care and handling while in the station. It becomes very easy to forget the hose outside of the time it is being used at the fire.

O. O. Ordway, Chief, Reading, Mass.: Our hose is dried and swept after every fire, than rolled and placed in piles. The hose on trucks is changed once a month so as to make the folds come in a different place.

We have had no acid damage of late years, but during the war and shortly after, we did have this trouble. It was caused by putting water in the hose after drying. This practice was carried out upon the advice of a salesman. The idea was to keep the rubber damp, but the water would drip out of the ends and destroy the jackets. Some believed that it was on account of some manufacturers using reclaimed rubber that was not washed properly.

L. J. Wilcox, Asst. Chief, Nebraska City, Nebr.: We have found in our department that it increases the life of fire hose to run water through it, when it is on the rack, every two weeks. A complete change is made every six weeks.

The only damage to hose from acid was encountered at a battery station fire.

We have found that the only way to decrease our service in fire hose was from the natural deterioration of the rubber. This turned a greenish color and gave away at the expansion ring.

Thomas Almond, Chief, Central Falls, R. I.: After using the hose we wash it and hang in the hose tower until dry. It is then piled on the racks in a cool place. We have just discarded hose bought in 1902 and 1903.

We have never been troubled by acid damage to our hose. Improper drying and dump fires, we find, are the cause of decreased service of fire hose.

Herbert R. Ferris, Chief, Amherst, Mass.: I have tried to make it a practice of personally overseeing the washing and cleaning of hose after a fire. I have been able to carry this practice out, because it is not a difficult thing to do in a small department like ours.

We change our hose every three months, at least, roll it up and put spare hose on the apparatus, for this changes the position of the hose. Our hose is dried on racks and we find that this way of handling it is very convenient.

We had more or less trouble with acid, but found it was caused by filling acid bottles on cement floors near where the hose was washed. Now we fill our extinguishers in the sink room where we have a lead lined sink. This has overcome the acid trouble. I also had a metal bottom put in our chemical hose basket to prevent any acid that may be in the chemical hose from dropping down on the cotton jacket hose.

There are many factors which cause the decreased service of fire hose. Among the commonly found ones are the following:

Hose not properly washed after using, hose left on apparatus without being changed, careless driving over hose by automobiles, leaving rolled hose on cement floor, which causes the bottom length to become damp. (A rack about 3 inches off the floor prevents this trouble.)

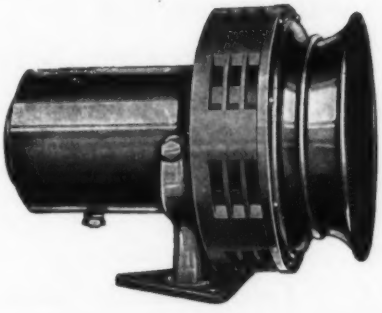
C. E. Carlson, Chief, Tacoma, Wash.: We provide two complete changes of hose for each apparatus. After hose has been used at fires, it is washed and dried in hose towers. When dry and in proper condition the hose is taken down from the tower, rolled loosely and stored in hose racks, ready for immediate use. When the hose is not used at fires it is changed once a month on the apparatus.

We have had some trouble from acid damage to hose from time to time. We are now replacing all chemical tanks on our pumper with booster water tanks which will stop acid damage to the hose. We believe booster tanks are more efficient.

In this department, I believe, acid, oil and tar, driving over charged lines with heavy apparatus at fires and

Special Apparatus Delivered to Orange, Va.

A Seagrave lighting and salvage apparatus has been recently delivered to Orange, Va., for the use of the volunteer Fire Department. The apparatus carries one 2 k.w. Kohler generator, a portable pump for country use, 4 Crouse Hinds searchlights, two portable hand operated lights with conductor cable on reels, one E & J resuscitator and inhalator, stretchers, gas masks, first aid chest, two Indian jack pumps, 9 Suredry salvage covers, 800 feet of 1½-inch fire hose and the usual equipment of small tools. Besides this apparatus, the department has a Seagrave city service truck and a Seagrave 500-gallon pumper.



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STERLING FREE ROLLING SIREN

the World's Greatest Apparatus Siren

8 Reasons Why:

1: Greatest sound.
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3: No clutches.
4: Beautiful design.
5: Marvelous motor.
6: Ball bearing throughout.
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8: All STERLING made.

29 Years of Siren Experience

STERLING SIREN FIRE ALARM CO., INC.
61 ALLEN ST. ROCHESTER, N. Y.

A Fire fighter writes his answer

"Ques.—What measures of fire prevention would you recommend for (a) office buildings; (b) factories?

Ans.—I should certainly recommend A.D.T. PROTECTION SERVICES, the best preventive there is."

A Significant O.K. On A.D.T. Protection

A.D.T. PROTECTION SERVICES

From Holyoke, Mass., comes this convincing testimony of the value of A. D. T. Central Station Protection.

A member of the Holyoke Fire Department, when asked his opinion on effective methods of fire prevention, responded enthusiastically by giving this answer.

A. D. T. Systems provide the highest form of property protection known—listed as "Standard" by Underwriters.

For promoting more efficient fire prevention in your vicinity, recommend positive A. D. T. Protection.

May we send you the Bulletin?

CONTROLLED COMPANIES OF
AMERICAN DISTRICT TELEGRAPH COMPANY
155 SIXTH AVENUE · NEW YORK N.Y.

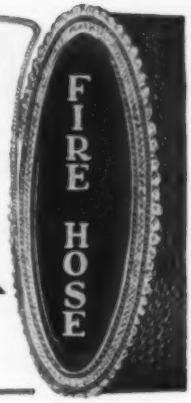
We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers.*

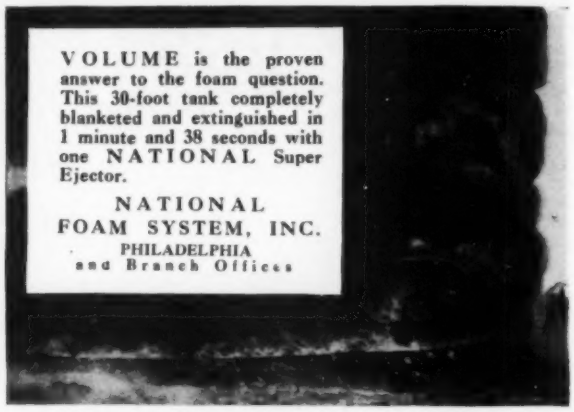
5469

Baker Fabric

Not a single-jacket hose, nor yet a double — but a mass-woven jacket combining the flexibility of the one with the strength of the other. Write for details.

MANUFACTURED EXCLUSIVELY BY
HEWITT - GUTTA PERCHA
RUBBER CORPORATION
BUFFALO, N. Y.
(Also makers of single and double jacket hose)
"Territories Available"





VOLUME is the proven answer to the foam question. This 30-foot tank completely blanketed and extinguished in 1 minute and 38 seconds with one NATIONAL Super Ejector.

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PHILADELPHIA
and Branch Offices

Hedberg Super Sirens

"The World's Best by Test"

offer the world's greatest and most versatile range of choice involving sizes and methods of operation.

Write for descriptive matter showing sirens that have never lost in competition.

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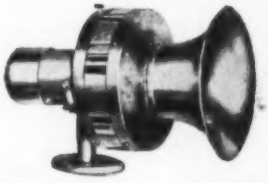
SAN JOSE CALIFORNIA

The Most Powerful Apparatus Siren



MORE sound volume to meet modern traffic demands. This siren "clears the way for blocks ahead." Write for Bulletin 36.

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Federal Electric Company
8702 South State Street
Chicago, Illinois

Saves time - *and costly hose*

No. 1. (Capacity 3 to 7 tons; weight, each, 72 lbs.)

No. 2. (Capacity 3 to 12 tons; weight, each, 118 lbs.)

Complete information and Prices on request.

It's often necessary to move apparatus at a fire. Automobile traffic hates to be held up by a line of hose stretched across the right of way.

Why ruin your hose by driving over it? Or waste valuable time cutting off and disconnecting?

The Wausau Protector is a big time and money saver—easy to handle and carry. Order a set today, or write us for particulars

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Here is my check (or money order) for $3.00. Please enter my subscription to your paper for one year to begin with the current issue.

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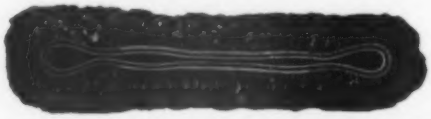
Bi-Lateral Fire Hose



The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.

Lined with three rubber tubes, specifically guaranteed for six years.

BI-LATERAL FIRE HOSE CO.
15 Park Row
New York, N. Y.
20 N. Wacker Drive
Chicago, Ill.

burning embers falling on hose line at fires have been the factors for decreased service of fire hose.

W. F. Morgan, Chief, S. Norfolk, Va.: We generally wash hose immediately after it is used, and then place it on the racks to thoroughly dry.

I have lost several sections of hose by acid coming in contact with the hose. This was caused by the careless recharging of chemical tanks.

C. E. Foster, Chief, Astoria, Ore.: After a fire, the hose is washed, couplings cleaned, and the hose placed in a tower until dry. After it is dry, it is taken down and rolled up. When hose is not used, it is taken off the wagon every month, water run through it and towered as before. We use a little dry powdered graphite on our couplings to keep them working freely. Once a year we test all hose to 200 pounds pressure. We have a gravity water supply and our highest pressure is 120 pounds. We hardly ever have the occasion to use a pumper.

We have had a little trouble from acid, but not very much.

Fred J. Washburn, Chief, Auburn, N. Y.: A record is kept of each individual length of fire hose, during its service in the department. We follow instructions on the care of the fire hose issued by the manufacturer. After hose is used, it is cleaned and dried and examined to note damage to couplings or to the jacket. Hose on the apparatus is changed frequently.

We have had no acid damage to hose.

Any damage to our fire hose has been caused mostly, by motorists driving over the hose stretched on the street at fires.

Joseph Waidelich, Chief, Topeka, Kan.: We have had a great deal of trouble caused by acid damage. The chemical reaction from sulphur in the hose and chlorine in our water supply makes it necessary to drain all water out of the hose. We have built towers about 35 feet high, fold the hose at the middle and prohibited hose to be taken off the apparatus without being put directly into the towers.

We have equipped apparatus with booster tanks instead of chemicals to avoid acid damage.

J. K. Bennett, Chief, Hutchinson, Kan.: The methods we use in prolonging the life of fire hose is as follows: Water should be run through the hose every thirty days. hose should be scrubbed, hung in a well-ventilated tower, and dried before replacing it on the apparatus to prevent mildew.

We have been troubled a great deal with acid damaging hose, invariably from chemical tanks that are overcharged.

Improper care of fire hose, such as failure to clean the outside jacket, failing to run water through the hose at the proper time, loading the apparatus too tight, are some of the things which decrease the service of fire hose. Gasoline is very destructive to fire hose as it goes through the outside jacket and destroys the tube inside and leaves no telltale marks. The same applies to kerosene with the exception that the kerosene leaves an oily spot on the jacket. All greases and oils I find are very dangerous to fire hose, especially the rubber tube. During the recent flood we had here in Hutchinson, we had about 2,000 feet of hose destroyed from oils and greases that were floating on the top of the water.

John Lahm, Chief, Madison, Wis.: We wash and dry our hose and we find that this preserves and increases the life of our fire hose. We have had some trouble from acid damage to hose. Rubber cracking in the folds caused a decreased service of fire hose.

Henry Sager, Chief, Muskogee, Okla.: We have found that by keeping hose dry on the outside and by sweeping mud off instead of washing, we have increased the life of the hose.

We have been troubled by acid damaging hose from overcharging chemical tanks and whenever the hose was used at an oil refinery fire.

We have found, in this department, that by taking hose out of trucks and airing it good and when reloading so as to avoid bending it in the same place, the life of fire hose is increased. It has been our experience that gasoline when spilled on hose will ruin it. We have some hose here in this department that is 16 years old and will stand 400 pounds pressure.

W. E. De Bolt, Chief, Connellsville, Pa.: I hang my hose at once after using it, and leave it up three days to dry. It is then taken down and rolled loosely. I have hose in service that was bought in 1914.

We have experienced some trouble from acid damaging hose. At one time a gasket on our 40-gallon chemical tank went bad, and acid spread over the hose. This damaged the outside jacket, but we were able to use it for a long time after this accident occurred.

Some factors that decrease the service of hose are: Allowing hose to lie around wet after a fire and putting the hose back on truck while wet. This will weaken the jacket and the hose won't stand the pressure after the jacket has been weakened.

P. H. Hannan, Chief, Creston, Iowa: We always clean fire hose well after it has been used and place it on the rack (believe tower is better) until we need it again. If we do not use the hose on the truck for 60 or 90 days we unload and reload the truck. This gives it a new position. It is a good plan to run water through the hose at least every 60 or 90 days to keep the rubber lining soft.

Acid should never be allowed to come in contact with cotton jacket hose; if it does, it just means new hose.

To shorten the life and the service of hose, roll it up tight and pile it in one corner of the station. Then if it should be in a fairly dry condition, be sure to wet it good when washing out the hose. This method of caring for hose is guaranteed to shorten the life of the best hose made.

Thomas Watson, Chief, Lincoln, Ill.: We run water in our hose every 60 days to keep it soft. The hose is then put back in place. We keep our hose away from all acid.

We do not allow anyone to run over the hose and for this reason we can have good hose all the time. We have some hose that has been in our department for 30 years.

T. O. Flowers, Chief, Rock Hill, S. C.: Water should be run through hose occasionally, then it should be dried and replaced on cars at least every 30 days, to help increase its life.

We have been troubled with acid damage to hose. We have found the following practice helps: Where the chemical hose is over the hose, after the chemical line is used, an old rubber boot is used to put the nozzle in to catch the drip.

* * *

ANSWER TO PREVIOUS QUESTION

The following replies have been received in answer to a question on whether a test call is sounded on the siren and if the siren tone has been confused with signals from sirens in neighboring towns:

E. Bendel, Chief, Decoto, Cal.: We blow one test blast every Friday evening, at 7:00 p.m., which is our drill night.

All other blasts indicate fire. We have been requested at certain times, to blow our siren for other purposes, but have not granted these requests, as confusion might be caused.

We have a Sterling siren, mounted on a 30-foot tower. The call can usually be heard about one and one-half miles, but occasionally five or six miles away.

Other adjacent fire districts have similar siren alarms, and their calls have occasionally caused our men to rally at our own quarters, but it has been felt that this is rather an advantage than a disadvantage, as we try to communicate with our neighbors in an event of a fire, should assistance be needed.

Geo. T. Kerins, Chief, Oakland, Md.: We have been sounding our siren on test calls each Monday at 12 noon. No confusion has resulted as the call is expected. On only one occasion was the siren out of order due to a burned-out fuse caused by an electric storm.

The nearest siren is twelve miles. Our alarm has been heard about five or seven miles.

The test employed has been in practice for some years and we find it to be endorsed favorably by the public as well as the department.

Walter W. Viles, Chief, Raynham Center, Mass.: We have a Sterling 5 h.p. double head, general call siren located on a 33-foot steel tower. This siren has been heard nine miles away, but this depends on the wind and atmospheric conditions. There are times when it can not be heard one-half mile one way and in the opposite direction several miles.

We have a test blow of 20 seconds at 12:15 p.m. every day except Sunday, unless a fire is on, when it is omitted. I believe a test should be made daily at some time to

check any trouble which might occur. I have found this to be true.

Our fire call is six up and down blows of the siren. This is taken care of by a box.

We do not have any trouble with any of the towns surrounding us as their signals are all different.

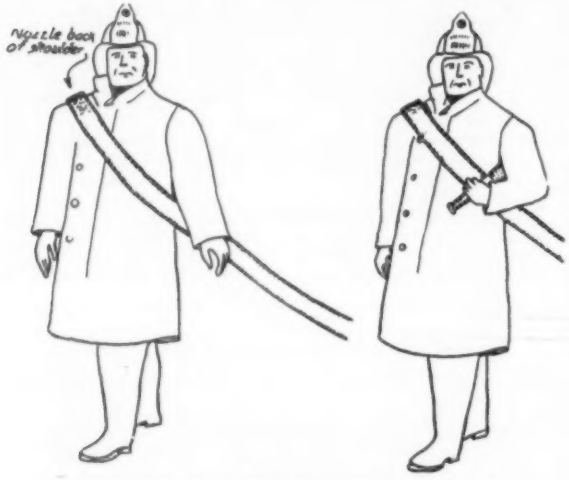
The Volunteer Fire Department

(*Continued from page 764*)

ing of hose by apparatus when pulling it to the fire. At drills, therefore, the men should be trained to lay hose in the proper manner, bearing in mind that at a fire other apparatus will roll in and will complicate matters.

Where a line of hose is being carried into a building, up a stairs or along a level as at a dock fire, the hose should be placed over the right shoulder and it should be supported just behind the couplings. Besides assisting in moving the hose it accomplishes two other purposes; it prevents the couplings from catching onto other objects and it is also in sight of the man carrying the hose; the method also avoids unnecessary strain on hose couplings.

Hose may be carried suspended in the hands so that both hands grasp the hose immediately behind the coupling. However, this makes the task harder for it interferes with the normal walk of the fireman.



Two Methods of Carrying Hose and Nozzle

The arrangement at the left is used when climbing ladders, as both hands are left free. At the right is the method for carrying the nozzle and hose when climbing stairs.

When stretching a line from the street into a building and then up a stairway, pass the hose under and then over the right shoulder as illustrated, grasping the nozzle with the left hand and pulling the nozzle under the left arm.

While stretching a line up a ladder, place the line under the right shoulder and the nozzle over the right shoulder. Another method for carrying a nozzle up a ladder is to place the nozzle over the right shoulder, having the hose under the left arm and across the chest. This method is favored in large departments for mounting stairs as well as fire escapes and ladders. In climbing stairs, however, the nozzle is held by the left hand.

The next issue will present information on hose drills for the volunteer fireman.

A fire station is being erected in Kelso, Wash. Many men have donated their time to complete the building.

A new fire station will be erected in Newport, R. I. The building will be of Colonial design with tapestry brick. The building will cost $83,000.

Dallas, Tex., will not reduce the size of the Fire Department in accordance with an announcement made by Chief Gambrell. When the budget was presented it was contemplated to release ten firemen. Since then eight have been retired and two other vacancies have been created. There are now 383 men in the department.

Box 11 Association Formed

Good fellows must get together. So reasoned A. R. Welton, District Manager of The Gamewell Company, and a number of city officials, fire chiefs and mayors. An informal meeting was held in East Liverpool, Ohio, which was attended by officials from western Pennsylvania, eastern Ohio and West Virginia. The meeting was so great a success that it was decided to hold others.

After All, a White Horse Is Rare

It is lucky for the horse that the picture was taken before the barbecue steak dinner arranged for the visitors at the Jesters Country Club.

After these gatherings which become increasingly popular, a suggestion was made that a permanent club be formed known as the "Box 11 Club." Committees were appointed and a regular constitution and by-laws adopted.

Before the club was organized, the meetings were along purely social lines. Now it is the intention of the members to have the club promulgate the interchange of municipal ideas and to have specialists on municipal subjects lecture at the meetings.

An amusing incident took place at the club meeting held in Wheeling, W. Va., September 10. At previous gatherings Chief Bryan of East Liverpool, Ohio, was teased by Chief McGranahan of Wheeling, W. Va., about how they go around in Wheeling on a white horse hunting for fires. When Chief Bryan came over from East Liverpool to attend the meeting, he was stopped at one of the fire stations and requested to get on a white horse and ride through the main street of the city to see the central station. Chief Bryan proved that he is a true sport. He mounted the horse, and to the delight of everyone, rode astride his mount to the headquarters one third of a mile away. When he reached the central station, newspaper photographers photographed the odd pair. The only fire that Chief Bryan found, it was reported, was the one that was burning in his lantern.

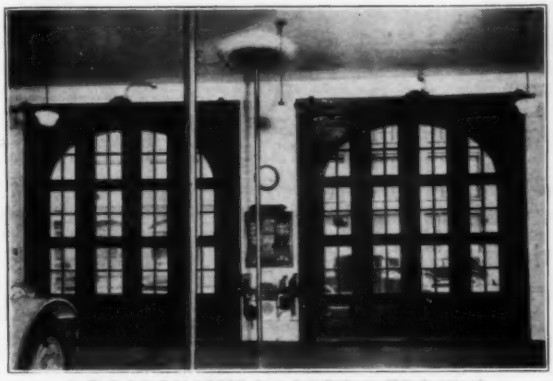
Some of Those Who Attended the Box 11 Meeting

This group was taken in front of the Central Fire Station. Many of the visitors left before the photograph was taken so that they could attend the horse races.

The officers of the new organization are as follows:

Thomas Bryan, Chief of Fire Department, East Liverpool, Ohio—President.

"—And We Offer Fire Station Protection"



A Typical 4 Fold ADECO Door Installation. This is one of many made in Chicago Fire Stations. Selected because of Speed and Dependability.

THERE is every logical reason for electrically operated doors for Fire Stations. You supply fire protection and we offer fire station protection against theft, against loss of heat and against inclement weather.

When the call comes your getaway must necessarily be fast. You will save considerable time if you have only to press a button, or pull a cord to open your doors quickly—and then have them close automatically by Button or Time Switch after you leave.

With every man gone, your doors automatically closed and locked, there can be no loss by theft. But a bigger saving is guaranteed when there is snow, sleet, rain or dust to be guarded against. You do not come back to a cold, damp or dust-laden station and start cleaning up as you would have to do if the doors were left open to the mercy of nasty weather. FUEL SAVING ALONE IS WORTH THE COST OF AN ADECO INSTALLATION.

The Automatic Door & Equipment Company is the largest exclusive designer, builder and installer of Motor Operated Entrance Equipment. With our broad experience our engineers are able to give your Architect and Engineers the correct information and products that guarantee smooth, quiet, fast, dependable doors with hardware that will not permit doors to sag or drag.

A Few of Many Fire Station Installations

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LET US KNOW YOUR PROBLEMS. Our Draughting and Estimating Departments are at your service. Suggestions, Estimates, Specifications and Plans will be furnished at no charge. ADECO electrically controlled doors can be quickly and easily installed on your present station and power can be taken from your lighting system.

When you are contemplating new stations, have your architect consult with our Engineering Department.

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THE Barton Centrifugal Fire Pump eliminates all need for a special, high priced fire truck. Any standard commercial chassis can be successfully used —and without costly changes, special transmission, etc.

As shown above, the Barton Pump mounts on front. It connects to the motor in a simple and positive manner, involving a patented principle which protects both pump and motor from all possible wear or injury.

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Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

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Full Line Fire Dept. Supplies and Equipment

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Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

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James B. Clow & Sons, Chicago Agents

Quick-Acting Reliable

Anderson-Hale Improved

FIRE STATION DOOR OPENERS

Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening. Opens from driver's seat or from floor. Many repeat orders from users.

Write for complete information.

The Anderson Coupling & Fire Supply Co.

Mfrs. Motor Fire Equipment and Fire Supplies

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LARKIN Fire Department Supplies

in Service Wherever Fires Are Fought

Our general line of equipment includes every fire department supply of merit.

Larkin shut off nozzles alone are in service in over 5,000 fire departments in U. S. and Canada.

Give us an opportunity of quoting on your next requirements. Let us send you our general catalog.

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Established 1898 **DAYTON, OHIO**

JOHN H. CLAY, INC.

1320 Ridge Ave., Philadelphia, Pa.

Established 1864

Clay Automatic Door Opening Devices for Fire Station Doors Opening either In or Out. Save valuable minutes in getting to fires. Send for Bulletin.

Novo Acid Jars & Holders

of every description stronger than lead and non-corrosive. Used by departments throughout the country.

Chemical Tanks and Lally Quick Opening and Self-packing Top for Chemical Tanks

Lally Improved Fire Hose Couplings, Fire Extinguishers and Charges, Fire Hose and Fire Department Supplies in General

Send for Complete Catalog

LALLY FIRE APPLIANCE CO.

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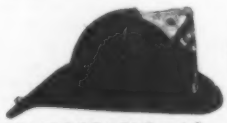
COMFORT AND SECURITY WITH THE CAIRNS LATEST LOW HEAD CUSHION LINED HELMET



COMFORTABLE AS YOUR OLD FELT HAT: WON'T SHAKE OFF

Never go to a fire without the protection of a good helmet. It may save your life.

Send for your copy of Catalog No. 227, showing this latest improvement.

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have data and information which can help you greatly. Get in touch with them.

Richard Lee Smith, Chief of Fire Department, Pittsburgh, Pa.—Vice-President.
Herbert A. Friede, City Electrician, Wheeling, W. Va. Secretary-Treasurer.

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Thomas Bryan, Chief of the Fire Department, East Liverpool, Ohio.
Richard Lee Smith, Chief of the Fire Department, Pittsburgh, Pa.
T. Y. Beckett, Manager-Mayor, Wheeling, W. Va.
James D. Granger, Chief of the Fire Department, Cleveland, Ohio.
Benjamin Marshall, Ass't. Sup't. of Police, Pittsburgh, Pa.
Edward Breen, Chief of Fire Department, Stuebenville, Ohio.
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A. L. Kress, Ass't. Manager-Mayor, Wheeling, W. Va.
C. K. Koontz, C. H. Arnold Company, Pittsburgh, Pa.
Charles Schuck, President of Wheeling Fire Association, Wheeling, W. Va.

Any city official in good standing in his community is eligible for membership. After much consideration it was decided that rather than hold meetings in one definite place, that the meetings be spread around throughout the Tri-State District, thus giving each city official and club member an opportunity to entertain the Club in his own home town.

Many Attend Northwest Fire School

The Fourth Northwest Fire School was held at the University of Minnesota and the Minneapolis Fire Department Drill School, September 21 to 25. This was the fourth annual short course for firemen sponsored by the League. Each year the attendance and interest at the sessions has surpassed the previous schools.

There were 350 men who attended the school. Most of them came from Minnesota, although the states of Illinois, Iowa, North and South Dakota, and Wisconsin were also represented. Seventy-two Minnesota cities and villages and twenty-six cities outside the state sent delegates. Speakers came from Minnesota cities, Iowa, New York, South Dakota, Washington, D. C., Chicago, and Canada.

New features were added to the school this year. Professor L. H. Reyerson of the School of Chemistry, University of Minnesota, gave a talk on the special hazards created by fires in drugs and chemicals and of the effect of heat and water on such materials. C. B. White, chemist-engineer of Elmira, N. Y., discussed chemical fire fighting and demonstrated the various types of extinguishers and their various uses. Dr. David G. Price of the United States Department of Agriculture gave two talks on dust explosions and on spontaneous combustion fires. The former talk was accompanied by motion pictures and was aimed to teach members of the school how to avoid dust hazards. The second subject was based upon the studies made by the Department of Agriculture on fires, especially in hay and grains. For the first time, the school was given a discussion and demonstration of the uses of gas masks of various types. This subject was presented by George Knoll of Chicago.

A talk was given by C. H. Chalmers of Minneapolis on oil burners. He emphasized the growth of the industry and special hazards created, and discussed the various safety devices and appliances to be required by ordinance. Battalion Chief Leslie Shewan of the Winnipeg, Canada, Fire Department spoke on ventilation of fires, and by slides, pictures and demonstrations described the necessity and methods of ventilating fires in buildings so that the firemen can get into the buildings and fight the fires. G. E. Florin, Superintendent of Fire Prevention, Industrial Commission of Wisconsin, presented some of the problems of rural fire fighting. He discussed methods of securing equipment, organizing a department for rural work and agreements between departments. He presented two suggested contracts for cooperation between rural and urban districts.

Hypothetical problems involving fire fighting strategy were discussed in round tables each morning, and proved very popular. The afternoons were divided up between the first aid work, under A. B. Hoftiezer, U. S. Bureau of Mines, and evolutions under George Lockhart of Minneapolis. Superintendent John Townsend, Jr., of the Fire Insurance Patrol of St. Paul, introduced a new evolution into the afternoon drills by giving some instructions in folding, carrying, storing and using salvage covers for the prevention of water losses. The Duluth Fire Department first aid squad gave a demonstration in first aid work on the last day of the school. The Minneapolis Fire Department arranged a banquet for the delegates at the Nicollet Hotel.

Fire Bell Honors Late Fire Chief

An old fire bell that was once the fire alarm system of Berkeley, Cal., in the days when "Jim" Kenney was Chief of the volunteer firemen, has been hung in a special tower in the new recreation house in James Kenney Park, as a lasting memory to the early Fire Chief.

When the city of Berkeley outgrew its volunteer department, Chief Kenney became the head of the first paid fire-fighting organization.

Chief Kenney was born in 1869 and became a fireman as soon as he was of age. He continued to be a fire-fighter until he met his death in 1916 while fighting a factory blaze in West Berkeley.

N. Y. Firemen Win Baseball Game

Forty thousand baseball fans, and admirers of the New York City Fire and Police Departments, saw the firemen emerge victorious at the Polo Grounds in a game arranged for the benefit of the unemployment fund. The baseball team of the New York Fire Department was awarded the cup offered by Mayor James J. Walker to the winner. It was reported that 65,000 tickets were sold for the game.

Preceding the game there were parades on the field, manoeuvers and marches. On one side of the field was the Police Department Band and on the other the New York Fire Department Band.

The game lacked some of the smooth routine generally displayed during Polo Grounds games, and the final score of 11-6 does not reveal the enjoyment of both players and spectators. Most of the players secured at least one hit, and the firemen demonstrated how easy it was to steal bases even with the police watching.

Sheedy Urges Fire Salvage Work

John J. Sheedy, Superintendent of the Salvage Corps in Albany, N. Y., in a lecture before the first school of the New York State Conference of Mayors, stressed the need for salvage crews and salvage equipment in municipal Fire Departments. In his talk before the two hundred chiefs, he said:

"The benefits of salvage work can be seen more and more each day. The education of officers and men in every fire company should include inspections of all buildings in their own districts, to familiarize themselves with conditions by these inspections and rigid enforcement of fire protection. An official of the concern should accompany each inspector throughout the building so that defects and hazardous conditions may be remedied at once. I would say that this practice and with the education of the general public with public lectures before community meetings, civic clubs, schools and colleges on the seriousness of fire, what to do and how to do it, the uses of fire appliances and instructions in sending in alarms at once should all be given in detail because delay is in many cases disastrous. I also would like to mention the fact that one of the most important things is the education of night watchmen of buildings in all these important points and in addition in the workings of the automatic sprinklers. We have seen in many cases what education has done. Half the battle is won when this education is accomplished.

"Speaking of salvage work, after 25 years of experience, I have often heard it said, 'we have not enough men to do salvage work.' Why not have enough? Your policy is, 'we strive to save life and property,' therefore, salvage work is saving property. As I mentioned before, you extinguish a fire in a dwelling where the loss by fire would be trifling and a store on the main floor with $5,000 or more merchandise would be damaged by water. This doesn't seem reasonable. There should be some protection."

A meeting to consider dust explosion hazards will be held in Washington, D. C., October 20. Dr. David J. Price of the U. S. Bureau of Chemistry and Soils is Chairman of the special National Fire Protection Association committee.

Engineers of the National Fire Protection Association have recommended that Springfield, Ill., install a new fire alarm system. Of eleven serious fires, delayed fire alarms have been cited as an important factor for the large fire losses.

PROPOSED IMPROVEMENTS

Los Angeles, Calif.—Reports state County Supervisors authorized chief mechanical engineer to prepare plans for fire station in Belvedere Gardens County Fire Protection District.

Bloomfield Hills, Mich.—Bloomfield township planning organization of a fire department and purchase of fire truck, according to reports. Perry A. Vaughan, Township Supervisor.

Passaic, N. J.—Reports state Fire Chief R. H. Bowker to recommend that pumper be installed in No. 6 Company station, Passaic park section.

La Grange, Ore.—City Commission may consider appropriating funds in budget for new 500-gal. pumper for fire department.

Penbrook, Pa.—Borough Council to petition County Commissioners to place $25,000 bond issue on ballots at November election, for new combined fire station and town hall. Eldridge Cowden, Borough Engineer.

Los Gatos, Calif.—Petition in circulation for formation of fire district outside city limits. Plan calls for purchase of fire truck and volunteer fire department.

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Fireman, 35 years of age; 6 years municipal experience; 2 years chief of industrial brigade. Further details and references furnished on application. Address Box 425, care of FIRE ENGINEERING, 24 West 40th St., New York City.
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CONVENTION DATES

Oct. 6-8—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA, 52nd Annual Convention, Wilkes-Barre, Pa. Secretary, Charles E. Clark, 411 Bellevue Ave., Wayne, Pa.

Oct. 12-16—NATIONAL SAFETY COUNCIL. 20th Annual Safety Congress, Chicago, Ill. Director, W. H. Cameron, Headquarters, 20 North Wacker Drive, Chicago, Ill.

Oct. 14-17—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 59th Annual Convention, Plaza Hotel, Havana, Cuba. Meeting Hall, Asturiano Club. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Charles A. McGinley, East Orange, N. J.

Oct. 15—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual Convention, Havana, Cuba, at the same time as I. A. F. C. Secretary, Chief Ray Tiller, Waterloo, Ia.

Oct. 20-22—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 50th Annual Convention, Norfolk, Neb. Secretary-Treasurer, H. A. Webbert, Kearney, Neb.

Oct. 20-22—RAILWAY FIRE PROTECTION ASSOCIATION. 18th Annual Meeting, Cleveland, Ohio. Secretary-Treasurer, R. R. Hackett, Baltimore & Ohio Railroad, Baltimore, Md.

Oct. 28—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY, N. Y. Monthly Meeting, Fire Headquarters, Peekskill, N. Y. Secretary-Treasurer, E. Riviere, Fire Headquarters, Larchmont, N. Y.

May 9-12, 1932—NATIONAL FIRE PROTECTION ASSOCIATION. 36th Annual Meeting, Atlantic City, N. J. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 11, 1932—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. 3rd Annual Convention, Cape Charles, Va. Secretary, W. A. Karpa, Cape Charles, Va.

June, 1932—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION, 60th Annual Convention, Gibsonburg, Ohio (exact date to be decided later). Secretary, Harry Smith, Supt., Water Works, Port Clinton, Ohio.

June 21-24, 1932—ILLINOIS FIRE COLLEGE, 8th Annual College, University of Illinois, Champaign-Urbana, Ill. Director, Prof. L. H. Province; Secretary, Asst. Chief Roy W. Alsip, Fire Department, Champaign, Ill.

June 21-24, 1932—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS, 10th annual convention, Newport, R. I. Secretary, John W. O'Hearn, Watertown, Mass.

Aug., 1932—VIRGINIA STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Alexandria, Va. (Exact date to be determined later.) Secretary, O. W. Dabney, Staunton, Va.

Plans for National Firemen's Day

Cheered on by the excellent response to Firemen's Day in Washington, D. C., on Labor Day, the men in charge of the project hope to establish an annual national firemen's day in that city.

The idea for such a day was started nine years ago in a rather modest way by Sergt. A. J. Bargagni of the Washington Fire Department.

He hopes that it will develop into a three-day program starting with a national firemen's day, and demonstrations and educational sessions to fill in the other two days. Sergt. Bargagni is trying to secure the backing of Federal and District of Columbia officials and to submit his ideas to Congress.

According to his estimates there are 1,500,000 firemen in the United States of which about 1,000,000 are not paid for their services. As a result of his tireless activities for a national firemen's day he has been made an honorary member in thirty-seven volunteer fire departments in Maryland, Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.

Newspaper reporters estimate that 200,000 persons reviewed the firemen's parade in the nation's capital the past Labor Day and a large part of the paper on the day following, was devoted to accounts of the parade and the other events arranged to honor the firemen's day.

Pittsburgh Makes House Canvass

A novel way of spreading the doctrines of fire prevention work has been followed by Chief Richard Lee Smith of Pittsburgh, Pa.

A special pamphlet that was sponsored by the Chamber of Commerce and the Pittsburgh Fire Department was prepared for general distribution during Fire Prevention Week. A uniformed fireman made a canvass of every house and a copy of the pamphlet was presented. At the same time the fireman told the householder where she could find the nearest fire alarm box and where the nearest engine house was located. He also explained that the officers of the department were willing to give advice and to cooperate in any way possible.

Chief Smith said, "If our people see that we have enough interest in their welfare to send a uniformed man personally to their homes, I believe it will make the impression that we want and we will secure the reaction needed for fire prevention to a greater extent than we ever had before."

New Trade Literature Received

The following literature descriptive of up-to-date methods and equipment for fire departments, has just been issued for general distribution, and can be procured by writing to the concerns mentioned. Those desiring additional trade literature in which they are interested can use our regular "Information for Buyers" page, listed in the advertising Index.

Globe Manufacturing Co., Pittsfield, N. H.—"Globe Firemen's Suits," illustrated booklet, sixteen pages and cover.

Peter Pirsch & Sons Co., Kenosha, Wis.—Illustrated folder describing the Pirsch aerial ladder.

Kohler Co., Kohler, Wis.—Illustrated folder describing the Kohler electric plants for illuminating night fires.

The Gamewell Co., Newton, Mass.—Illustrated folder describing the experiences of Port Jervis, N. Y., in increasing the percentage of box alarms from one per cent to 97 per cent.

Has Fire Alarm But No Operators

Due to an economy drive, Youngstown, Ohio, has a new fire alarm system costing $72,000 but it has not provided for three men to operate the system. The pleas of Chief Callan for these extra men appeared to fall on deaf ears. Local men argued that instead of spending the money for the three fire alarm operators that are needed, the money should be used for alleviating conditions among the poor.

Chief Callan pleaded in vain that the signal system was of no benefit unless it was properly manned, and that the safety of 40,000 school children was at stake. He said that the old system did not require any special operators but that one man was needed to operate the new fire alarm system recently completed. One man would be needed on each of three shifts.

The Chief said that the city is not only passing up the speedier and more comprehensive alarm service, but it is actually being handicapped because parts of the old signal system have been remodeled and included in the new system.

Firemen of Craig Beach Village, Ohio, are trying to raise funds for the purchase of second hand fire apparatus.

The Attorney General of Ohio has ruled that fire apparatus and appliances for a volunteer Fire Department may be legally purchased by the townships contracting with the department for fire protection.

The council of Corry, Pa., has received an offer for a loan from the Firemen's Relief Association to finance the purchase of new fire apparatus to replace an old unit now in service.

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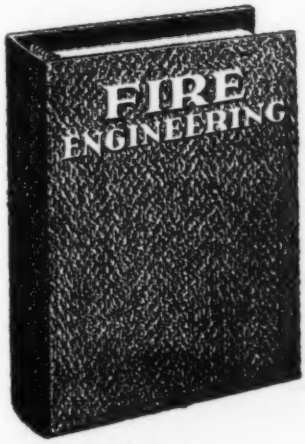

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FALSE ALARMS

Drawing by "Art" Espey

Arson Investigator: By gosh! That was gasoline in that can.

DAMAGED

A visitor to a convention on Long Island, who was accustomed to the meaty, fish of his locality, went fishing with one of the local men who was assigned to act as host. After a short while in the row boat, the visitor pulled in a good sized flounder and then threw it back into the water.

"What d'yer do that for?" asked the host.

"I don't want one that's been stepped on," said the man.

A Broadway native announced his method of spotting chorus girls. If you find a girl walking down Broadway modestly dressed without an excessive supply of make-up, it's ten to one she is a chorus girl. The others are stenographers.

DENIED PLEASURES

A fireman who was detailed by the Bureau of Public Assembly to attend a Communist meeting, was very much interested in the antics of one man who was in a corner by himself. The man was hitting himself on the head with a hammer.

"What's the big idea," asked the fireman who was both amused and interested.

"Nothing. I missed the last meeting."

When a woman makes up her face to go out it is foolish for her husband to make up his mind to stay in.

THE HERO

In the dead of night, the siren blew. Each firemen counted the blasts. It was for a fire in the better part of the town. As fast as possible the men assembled at the fire house, and the apparatus and the men went rushing to the fire.

Once there, fire could be seen breaking through a skylight in the roof. A very brave firemen, rushed in without waiting for orders. He was gone for what appeared to be a long time. He was seen at the window with what he thought was a nude woman in his arms. A ladder was quickly placed in position and the hero was once more on the ground. But then his fire buddies broke out into a grand laugh. The hero looked down.

"Hell," he remarked when he saw the statute he had carried down. "That's what I get for being a fireman where there is an art colony."

Most of the dirty work at the crossroads this summer has been going under the name of highway repairs.

STARTED LATE

He was telling his friend about the special job he had down at the repair shop.

"Gee that's great," remarked the friend. "How long have you been working for the company?"

"Ever since they threatened to fire me," was the answer.

The jazz age is said to be passing. It generally passes under our window about three a.m.

SURE METHOD

Murphy wheeled his twin babies by the fire station so that the boys could see what pretty youngsters he had. The pair looked so much alike that one of the boys asked:

"Hey Murphy, how do you manage to tell one from the other? I don't see one bit of difference between the two."

"Oh, that's easy," said the father. "Little Mike has a tooth comin' up and Tim hasn't. So I put my finger in Tim's mouth an' if he bites, why then it's Mike."

The new definitions of an optimist is one who leaves his door open all night hoping that his wife will walk out on him.

HE KNEW

They were overhauling at a fire.

"Gee I'd hate to be in your shoes," said one fireman to another.

"Why?"

"Why! You fool, you just stepped on a nail."

Green gives you the right-of-way. This is especially true of the long green.

COOPERATION

The captain and lieutenant in a fire station were at loggerheads. They scowled whenever they met, and seized opportunities of scoring off each other with fearful glee. Each took a turn at making the day's entries in the station day book, and the lieutenant when making his entries was very much surprised to find in the captain's handwriting, the words:

"Sept. 1, 1931—Lieutenant drunk."

He stared at it wrathfully a moment, and then a slow grin broke over his face. He took his pen and wrote:

"Sept. 2, 1931—Captain sober."

Then there was the Scotchman who moved next to a church. He was fond of rice pudding.

NO FIREBUG

In one Maine town, the town was very much incensed over a number of suspicious fires. A meeting was called and a member of a large department addressed the townsfolk on arson.

The following morning was an unusually cold one, and as one couple enjoyed the bed covers, the wife said:

"John, will you get up and light the fire."

"Maria," answered the husband, "don't keep making incendiary speeches."

In Spain they call bull-throwers Señors; here they call them Senators.

FIRST AID

"Don't you wear pajamas?"

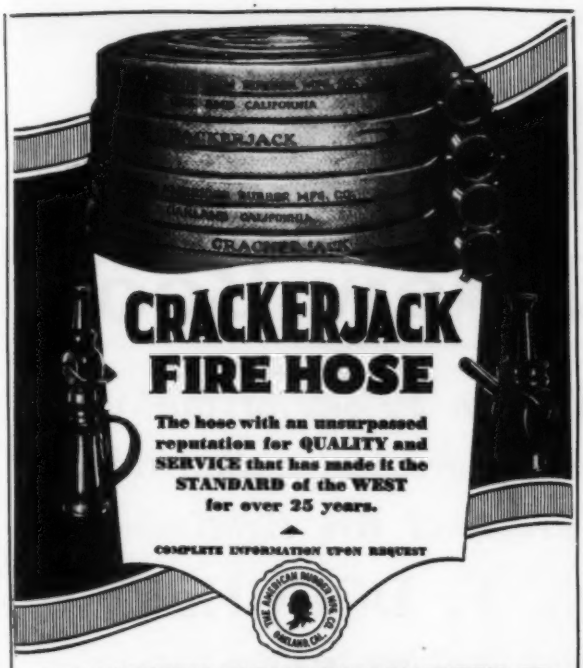
"No I don't. But I keep a lovely pair where I can get at them quick in case of fire."

"Don't you forget it, it takes push to get anywhere."

"So you bought a used car, too?"

Drawing by "Art" Espey

Lady who pulled box: "I'm really awfully sorry to trouble you, gentlemen, but little Walter wanted to see the fire trucks so badly. Poor little fellow! We never deny him anything.



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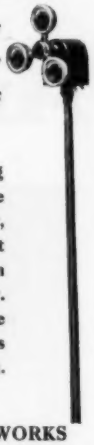

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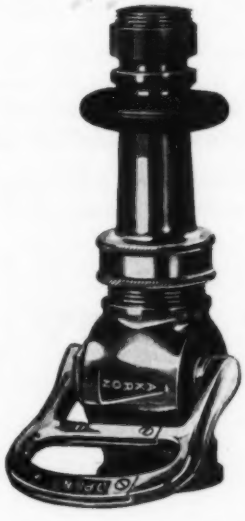

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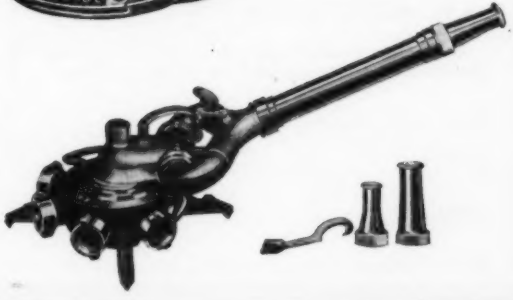

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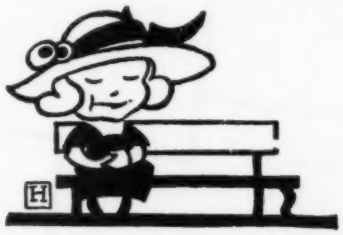

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Quincy, Mass., adopts Teletype to speed up its still alarms

WHEN on August 10th the Quincy, Mass., fire department began to use Teletype to transmit still alarms to its various stations, the event was described by the Evening Patriot Ledger of that city as follows:

"This morning, at 9 o'clock, Chief William A. Sands of the Quincy Fire Department sent the first message over the newly-installed Teletype system connecting all fire houses in the city with Central Headquarters. The apparatus is located in a small brick building at the rear of headquarters, where there are batteries and other electrical equipment hooked up in a manner to provide against any possibility of the system going out of commission unless the building is destroyed by a hurricane.

"In the operating room is a telephone switchboard, over which more than half of the city's fire alarms are received. A light glows, a man on the board says 'Fire Department,' notes the number and street where the fire is reported, swings partly around, presses a small lever which rings a signal bell in every station in the city, and then pounds the keys of what looks like a typewriter.

"He may write 'RUBBISH FIRE, CORNER FENNO AND BOULEVARD. ENGINE 4 AND LADDER GOING FROM BEALE STREET STATION.' This message is immediately typed on a narrow paper tape feeding out of the machine in each station. The man watching the tape shouts the message and they are away, even before the operator at headquarters can swing back to the switchboard.

"By the Teletype system the news of a fire and its location is known instantly in every section of the city. Likewise, if Chief Sands wishes to switch the apparatus around for better protection during a fire, he can call the operator and it is handled with one message over the Teletype.

"Another part the Teletype is going to play is in calls for the pulmotor or for equipment to extricate an injured man. Or, if a street is closed, a hydrant out of order or a thousand and one things that might interfere with the passing of a truck to a fire, the printing machine will tell all about it. Every message is printed in large, clear capital letters and can be filed for future reference if desired.

"There are six Teletype machines for receiving messages, and others can be added as more fire houses are needed. Chief Sands is convinced that the installation will pay for itself in the time saved in answering alarms."

As its name implies, Teletype transmits typewriting by wire at a speed of 370 characters a minute. Installations can be arranged so that an alarm can be flashed to any one station, to any group of stations, or simultaneously to all stations.

Why not give your own community the greater protection afforded by this machine that typewrites by wire? For further information consult your local telephone company or write the Teletype Corporation, 1400 Wrightwood Ave., Chicago.

Teletype of Fire Dept. Begins Operation Today

Chief Sands Sends First Message Over System That Is Only One of Kind Installed in Any New England Department

This morning, at 9 o'clock, Chief William A. Sands of the Quincy Fire Department sent the first message over the newly-installed Teletype system connecting all fire houses in

part the Teletype is going to play is in calls for the pulmotor or for equipment to extricate an injured man. Or, if a street is closed, a hydrant out of order or a thousand and one

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BUREAU OF FIRE
FIRE CHIEF'S OFFICE
Room 102, Municipal Building

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July 20, 1931.

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It is just recently that we have installed Shuredry Salvage Covers in our department, and I am thoroughly convinced that no fire department is doing its full duty to the municipality it represents until they make installation and use of these Covers, to eliminate the water damage which is always so prevalent at fires. Seventy-five per cent. of damage at fires has been caused by water and now that there is a way of eliminating this loss to a certain extent, a progressive department will cooperate.

Since we have started to use these Covers there were two fires in our City that I wish to mention to you. In one case we saved $35,000.00 worth of Printing Machinery; in another case $20,000.00 worth of furniture in an apartment house fire which occurred on the fourth floor. In this fire there were a number of very valuable pieces of Antiques on which it is impossible to place a monetary value. As a paying investment for the fire department we can offer no better example than the above for at the time of these fires we had invested only $150.00 in Covers.

It is our intention to install more Covers from time to time so that in the near future we will have the entire department sufficiently equipped to take care of our needs.

We certainly believe in their merit and are glad to recommend them to the use of all fire departments.

Very truly yours

BUREAU OF FIRE
BY: M. M. Tawney
M. M. Tawney, Chief.

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